

Prednisone/tacrolimus

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Increased SARS-CoV-2 viral load: case report

A 62-year-old man had increased SARS-CoV-2 viral load during immunosuppressive therapy with prednisone and tacrolimus.

The man, whose medical history was significant for diabetes, hypertension and overweight, presented to the emergency department on 13 April 2020 due to asthenia, diarrhoea, loss of appetite and weight loss since 10 days. No respiratory symptoms were noted at the presentation. He had undergone kidney transplantation 21 years prior and had been receiving maintenance immunosuppressive therapy with prednisone 5 mg/day and tacrolimus 6.5 mg/day [*routes not stated*]. He was also receiving unspecified diuretics and unspecified ACE inhibitors. Upon presentation, his chest CT scan showed COVID-19 pneumonia. Thus, SARS-CoV-2 PCR of nasopharyngeal swab performed on 13 April 2020 and 14 April 2020 and both the tests showed negative results. However, PCR of stool sample showed positive result for sars-cov-2 virus at a threshold value of 33.2 (2.585 copies/mL) on 14 April 2020 and sequencing showed 20A/8371T sequence type. On the following day, his PCR of another stool sample showed positive result for sars-cov-2 virus at a threshold value of 33.4 (2.250 copies/mL) and sequencing revealed 20B/19818T-28845T sequence type. The PCR of nasopharyngeal swab was positive on 15 April 2020 at a cycle threshold value of 33.5 (2.099 copies/mL) and sequencing showed 20A/8371T sequence type similar to sequence type in the first stool sample. His laboratory tests showed acute kidney injury and mild inflammation. It was considered that immunosuppressive therapy led increased SARS-CoV-2 viral load and active viral replication in gastrointestinal tract causing gastrointestinal symptoms [*duration of treatment to reaction onset not stated*]. The acute kidney injury was secondary to dehydration caused by severe diarrhoea.

Owing to COVID-19 pneumonia, the man started receiving off-label treatment with azithromycin for 5 days, hydroxychloroquine for 10 days and ceftriaxone for seven days on 14 April 2020. The dose of tacrolimus decreased, and he underwent intravascular fluids expansion and discontinuation of unspecified diuretics and ACE inhibitors due to acute kidney injury. Eventually, his dehydration resolved and CRP became normal on 18 April 2020. Later, his nasopharyngeal swab showed negative results for SARS-CoV-2.

Dergham J, et al. Isolation of viable SARS-CoV-2 virus from feces of an immunocompromised patient suggesting a possible fecal mode of transmission. *Journal of Clinical Medicine* 10: 2696, No. 12, Jun 2021. Available from: URL: <http://doi.org/10.3390/jcm10122696>

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