

Immunosuppressants

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Lymphopenia, neutropenia and prolongation of the coronavirus disease 2019 (COVID-19) viral clearance: case report

A 42-year-old man developed lymphopenia, neutropenia and experienced prolongation of the coronavirus disease 2019 (COVID-19) viral clearance time during treatment with antithymocyte-globulin, tacrolimus, mycophenolate-mofetil and prednisolone as immunosuppression therapy.

The man with hypertension, diabetes and obesity received kidney transplant (KT) due to diabetic nephropathy. He started receiving immunosuppression induction therapy with antithymocyte-globulin [thymoglobulin] followed by maintenance therapy with tacrolimus, mycophenolate mofetil and prednisolone [*dosages and routes not stated*]. He underwent haemodialysis for 2 weeks after KT. Later, he was admitted (Day 0) for elective removal of ureteral stent. He exhibited body temperature 36.5°C, oxygen saturation of 98%, blood pressure 110/69mm Hg and respiratory rate 25 breaths/minute. Subsequently, COVID-19 infection was confirmed with nasopharyngeal swab. Laboratory tests revealed lymphopenia, increased C-reactive protein and D-dimer.

Subsequently, the man was admitted to COVID-19 ward. The tacrolimus dose was reduced and prednisolone dose was increased from 5mg to 20 mg/day with gradual tapering. Mycophenolate mofetil was discontinued in view of neutropenia and lymphopenia. He displayed persistent leucopenia and lymphopenia. He was discharged on day 7. After discharge, lymphopenia, IgG, and IgM levels improved, but lymphocyte subpopulation level found to be low [*time to onset of reaction not stated*].

Mycophenolate mofetil was restarted with dose of 250mg two times a day. The man experienced lymphopenia before COVID-19 infection. Lymphopenia was suspected secondary to antithymocyte-globulin induction and maintenance immunosuppression (tacrolimus, mycophenolate-mofetil and prednisolone) therapy. His RT-PCR SARS-CoV-2 became negative on day 48 and 50, indicated prolonged duration of viral shedding after diagnosis, which may have caused due to immunosuppression therapy.

Querido S, et al. Kinetics of torquetenovirus DNA load in a recent kidney transplant recipient with mild SARS-CoV-2 infection and a failed antibody response. *Transplant Infectious Disease* 23: No. 2, Apr 2021. Available from: URL: <http://doi.org/10.1111/tid.13524> 803569725