

Immunosuppressants/unspecified steroids

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COVID-19: 4 case reports

A case series described four pancreas transplant recipients (two men and two women) aged 36–60 years who developed COVID-19 (diagnosed between 22 March 2020 and 11 April 2020 at a hospital in USA) while receiving immunosuppressive therapy with antithymocyte-globulin, mycophenolate, tacrolimus or unspecified steroids [*routes, dosages and durations of treatments to reactions onsets not stated*].

Case 1: A 53-year-old man, who had a history of end-stage renal disease caused by type 1 diabetes, underwent simultaneous pancreas and kidney transplantation (SPK; two times). He received induction immunosuppressant therapy with antithymocyte-globulin [thymoglobulin] and an unspecified steroid with rapid withdrawal. Immunosuppression was maintained with tacrolimus monotherapy. Other comorbidities included hypertension, atrial fibrillation and coronary artery disease. He presented to hospital for evaluation of fever and cough 107 months after the second SPK. At the time of presentation, his creatinine level was 0.9 mg/dL (baseline level was same) and his test for SARS-CoV-2 showed positive result. As his oxygen saturation was normal, he was discharged home with outpatient monitoring. His tacrolimus therapy was stopped for two days, and off label treatment with azithromycin was commenced. Over the following 18 days, his COVID-19 symptoms resolved. During follow-up examination (5 weeks after symptom resolution), he was noted as asymptomatic.

Case 2: A 40-year-old man, who had a history of end-stage renal disease caused by type 1 diabetes, underwent simultaneous pancreas and kidney transplantation (SPK). He received induction immunosuppressant therapy with antithymocyte-globulin [thymoglobulin] and an unspecified steroid with rapid withdrawal. Immunosuppression was maintained with tacrolimus and mycophenolate. Other comorbidities included hypertension for which he had undergone angioplasty of the transplant renal artery three weeks prior to presentation. Twenty months after the SPK, he presented to hospital for telehealth evaluation due to fever, headache, chest pain, anosmia, diarrhoea and myalgia. Subsequently, he was diagnosed with COVID-19. His mycophenolate therapy was stopped. As respiratory symptoms were not noted, he was not referred to the emergency department and was monitored at home via daily telehealth check-ins. No laboratory tests were performed or off label treatment for the COVID-19 was prescribed. Symptoms resolved in 15 days, and mycophenolate was resumed. During follow-up examination (after 5 weeks), he was noted as asymptomatic. Laboratory tests showed creatinine level of 1.24 mg/dL (baseline was 1.14) and lipase level was 42 U/L (baseline was 28).

Case 3: A 60-year-old woman, who had a history of end-stage renal disease caused by type 1 diabetes, underwent simultaneous pancreas and kidney transplantation (SPK). She received induction immunosuppressant therapy with antithymocyte-globulin [thymoglobulin] and an unspecified steroid with rapid withdrawal. Immunosuppression was maintained with tacrolimus and mycophenolate. Other comorbidities included hypertension and coronary artery disease. Eight months after the SPK, she presented to hospital for telehealth evaluation due to fever, cough, dyspnoea, headache, anosmia and diarrhea. COVID-19 was suspected. Her mycophenolate therapy was stopped, and she was monitored at home via frequent check-ins. Ten days after the onset of symptoms, she developed hypoxia requiring hospital admission. Her oxygen saturation was found to be 89%. Thus, supplemental oxygen was started. SARS-CoV-2 test confirmed COVID-19 infection. Laboratory tests showed WBC of 1.3×10^3 , absolute lymphocyte count of 200, creatinine 0.96 mg/dL (baseline: 1.05 mg/dL), lactate dehydrogenase 276 U/L, C-reactive protein 8.8 mg/L, ferritin 1118 ng/mL, D-dimer 1.4 ng/mL and random glucose 118 mg/dL. A chest X-ray demonstrated bilateral infiltrations. Hence, off label treatment with hydroxychloroquine and azithromycin for COVID-19 was initiated. Additionally, she received methylprednisolone. She developed hypoxic respiratory failure, 22 days after onset of symptoms. Three days later, she died due to hypoxic respiratory failure. Her creatinine level was noted as 0.6 mg/dL prior to the respiratory arrest.

Case 4: A 36-year-old woman, who had a history of end-stage renal disease caused by type 2 diabetes, underwent simultaneous pancreas and kidney transplantation (SPK). She received induction immunosuppressant therapy with antithymocyte-globulin [thymoglobulin] and an unspecified steroid with rapid withdrawal. Immunosuppression was maintained with tacrolimus and mycophenolate. Other comorbidities included hypertension. Three months after the SPK, she presented to hospital due to fever, cough and myalgia. Subsequently, she was diagnosed with COVID-19, and was admitted. Laboratory tests showed WBC of 6.24×10^3 , absolute lymphocyte count 310, random glucose 114 mg/dL, creatinine 1.9 mg/dL (baseline: 1.8 mg/dL). Chest x-ray showed bilateral hazy opacities in her lower lungs and oxygen saturation was between 94–100%. She received off label treatment with hydroxychloroquine and azithromycin for COVID-19. Her fever resolved after one week, and cough improved after two weeks. During the hospitalisation, her creatinine level ranged between 1.9 and 2.2 mg/dL, her glucose ranged between 71 and 114 mg/dL and her lipase ranged from 248 to 351 U/L. One week after resolution of fever, mycophenolate was re-started. During follow-up examination (five weeks later), she was noted as asymptomatic.