Immunosuppressants

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COVID-19 and cytomegalovirus reactivation: 2 case reports

A case series, described two patients including a 61-year-old man and a 61-year-old woman, who developed COVID-19 and cytomegalovirus (CMV) reactivation during immunosuppressant drug therapy with prednisolone, everolimus, mycophenolate-mofetil, ciclosporin or azathioprine [*routes, dosages, duration of treatments to reactions onsets and outcomes not stated*].

Patient 1: The woman presented to the emergency department with sustained fever and dyspnoea for last 24h. She had a history of systemic lupus erythematosus with pulmonary, joint and renal involvement and chronic kidney disease undergoing regular haemodialysis. Currently, she had been receiving treatment with azathioprine and prednisolone. She developed hypotension that was responded to fluid challenge. Arterial blood gas examination revealed hypoxaemia. Initially, SARS-CoV-2 PCR assay was negative, and blood cultures were positive for *Enterococcus faecalis*. Hence, unspecified antibiotics were started and the she was transferred to the medical ward. Later, the PCR assay was repeated due to contact with a COVID-19 patient that turned out positive and was diagnosed with COVID-19. She evolved with acute respiratory distress syndrome and respiratory failure requiring ICU admission, where she was initiated on invasive mechanical ventilation. Both plasma and bronchoalveolar lavage (BAL) CMV viral loads were positive (3528 UI/mL and 229 UI/mL, respectively). She was diagnosed with CMV reactivation. She was treated with ganciclovir in the ICU. Eventually, she died due to refractory circulatory shock on day 8. It was noted that COVID-19 and CMV reactivation was due to immunosuppressant drug therapy with azathioprine and prednisolone.

Patient 2: The man presented to the emergency department with a headache, fatigue and shortness of breath for the past 24h. He had a history of a heart transplant, diabetes mellitus, hypertension and chronic kidney disease. Currently, he had been receiving treatment with everolimus, mycophenolate-mofetil, ciclosporin [cyclosporine] and prednisolone. He developed hypoxaemia, chest X-ray showed bilateral patchy pulmonary infiltrates and the SARS-CoV-2 PCR assay was positive and was diagnosed with COVID-19. Then, he was admitted to the medical ward, where he progressed with acute respiratory distress syndrome and respiratory failure requiring ICU admission 2 days later. He underwent invasive mechanical ventilation for 37 days and the clinical course was complicated with septic shock and ventilator associated pneumonia due to *Proteus mirabillis* and *Klebsiella pneumoniae*, with the need for renal replacement therapy. Although CMV viral load upon admission had been negative, screening was repeated and viral load turned positive. He was treated with ganciclovir in the ICU for 3 weeks. A surgical tracheostomy was performed on day 35 due to ventilatory weaning failure. After readmission to the medical ward, he was discharged to a rehabilitation unit 87 days after admission. It was noted that COVID-19 and CMV reactivation was due to immunosuppressant drug therapy with everolimus, mycophenolate-mofetil, ciclosporin and prednisolone.

Moniz P, et al. SARS-CoV-2 and cytomegalovirus co-infections-a case series of critically ill patients. Journal of Clinical Medicine 10: 2792, No. 13, Jul 2021. Available from: URL: https://www.mdpi.com/2077-0383/10/13/2792/pdf

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