Canakinumab

S

Pulmonary bacterial superinfection secondary to compassionate use: case report

An 85-year-old man developed pulmonary bacterial superinfection while receiving canakinumab on a compassionate use basis for Coronavirus disease 2019 (COVID-19) pneumonia.

The man was admitted on 23 March 2020 with fever, dyspnoea, cough and hypoxaemia. His medical history was significant for prostatic hypertrophy and mild arterial hypertension on amlodipine. He had interstitial lung pattern, small left pleural effusion along with lymphopenia. Further laboratory tests were performed and he was treated with oxygen therapy and off label hydroxychloroquine. On day 3, he developed severe lung injury. On day 4, his respiratory condition deteriorated and continuous positive airway pressure (CPAP) non-invasive ventilation and positive end-expiratory pressure (PEEP) were initiated. He received off label azithromycin and lopinavir/ritonavir. Additionally, he started receiving enoxaparin sodium. On day 5, he was treated with off label IV tocilizumab 8 mg/kg/12h. On day 23, he developed acute respiratory distress syndrome (ARDS) and severe arterial hypertension. Shortly thereafter, he was transferred to the ICU in an obnubilated and non-collaborative condition and sedated with dexmedetomidine. He was continued on CPAP ventilation. On day 24, he developed oliguria with acute renal and cardiac failure and progressive respiratory failure. He was intubated and treated with furosemide and unspecified vasopressor amines. After receiving informed consent for compassionate use of canakinumab, he received SC canakinumab 300mg on day 25 and day 31. After first administration of canakinumab, his diuresis normalised and renal function improved; however, complete recovery was not noted. On day 31, his respiratory conditions did not improved significantly. The film array pneumonia detected the presence of bacterial infection caused by *Acinetobacter* C.B. *c*omplex at 107 copies/mL and *Pseudomonas aeruginosa* at 106 copies/mL. A diagnosis of pulmonary bacterial superinfection was made; it was attributed to canakinumab.

The man was treated with piperacillin/tazobactam, cotrimoxazole, colistin, avibactam/ceftazidime and doxycycline. Periodic microbiological test revealed persistent viral replication on day 43. Further on day 53, his creatinine level increased. On day 58, he died due to pulmonary bacterial superinfection and persistent COVID-19 pneumonia.

Caracciolo M, et al. Case Report: Canakinumab for the Treatment of a Patient With COVID-19 Acute Respiratory Distress Syndrome. Frontiers in Immunology 11: 25 Aug 2020. Available from: URL: http://doi.org/10.3389/fimmu.2020.01942

803562430