Rituximab

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COVID-19 infection: case report

A 45-year-old woman developed COVID-19 infection during treatment with rituximab for pemphigus.

The woman, who had pemphigus foliaceous, received a cycle of IV rituximab 500mg x 4 weekly infusions in May 2019. She showed a complete remission of disease and off-therapy of rituximab in November 2019. After 2 months, a relapse occurred. Thus, on 23 January 2020, she received an additional IV rituximab 500mg infusion and started receiving prednisone. Two weeks after infusion, a diseases control reached. Then, prednisone was gradually tapered. At the beginning of March 2020, the lesions completely resolved; however, B cells depleted. By 15 March 2020, she developed mild flu-like symptoms. Then, she received azithromycin for 3 days and amoxicillin/clavulanic-acid [Co-amoxiclav] for 6 days. During antibiotic therapy, she experienced hyposmia, hyperpyrexia, nocturnal dyspnoea, ageusia and dry cough. On 27 March 2020, a nasopharyngeal swab showed positive results for SARS-CoV-2. Then, she was admitted to the Geriatric-COVID-19 Unit of the referral hospital in Bolzano-Bozen, Italy. At the time of admission, her oxygen saturation was 94% on room air. Arterial blood gas analysis showed partial pressure of oxygen 61.9mm Hg, partial pressure of carbon dioxide 34mm Hg, arterial oxygen partial pressure/fractional inspired oxygen 295mm Hg and pH 7.49. Laboratory investigations showed lymphopenia, slightly elevated lactate dehydrogenase, elevated C-reactive protein and increased interleukin-6. Chest radiograph revealed interstitial pneumonia with bilateral airspace opacities.

Subsequently, the woman started receiving an off label treatment with hydroxychloroquine 200mg bid for 8 days, lopinavir/ritonavir 200/50mg daily for 8 days. She also received anticoagulation with enoxaparin sodium along with oxygen therapy. Despite the treatment, her fever persisted, and dysponea worsened. On 01 April 2020, she was transferred to the Infectious Diseases Unit of the same hospital. She received high flux oxygen therapy via nonrebreather mask, methylprednisolone. The dose of enoxaparin sodium was increased. Eventually, a sudden clinical improvement was noted. After 3 days, she was found to be apyretic, and her oxygen saturation improved to 98%. Methylprednisolone was continued for 2 days, then it was gradually tapered. Later, she recovered. Eighteen days after admission (14 April 2020), a further nasopharyngeal swab was negative for SARS-CoV-2. Eventually, she was discharged on methylprednisolone. At present (February 2021), she was found to be in a good general condition. In January 2021, a complete remission off therapy was noted. Later, it was confirmed that her COVID-19 infection was associated with rituximab.

Sinagra JL, et al. Case Report: Complete and Fast Recovery From Severe COVID-19 in a Pemphigus Patient Treated With Rituximab. Frontiers in Immunology 12: 16 Apr 2021. Available from: URL: https://www.frontiersin.org/journals/immunology#

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