

**Bortezomib/dexamethasone****S****Covid-19 pneumonia: case report**

A 61-year-old man developed COVID-19 pneumonia during treatment with bortezomib and dexamethasone for multiple myeloma.

The man was admitted to a hospital in Wuhan on 08 January 2020 due to several months' history of chest pain. He subsequently underwent bone marrow aspiration. On 15 January 2020 (day 1), he was admitted to the department of haematology and was diagnosed with multiple myeloma IgG- $\kappa$  (Durie<sup>1</sup>; Salmon Stage II A). Subsequent chest CT on day 1 was normal. Then, he started receiving chemotherapy including IV bortezomib infusion 1.3 mg/m<sup>2</sup> (planned for days 2, 5, 9 and 12) and IV dexamethasone infusion 40mg (planned for days 2, 5, 9 and 12) on 16 January 2020. Following chemotherapy initiation, he did not feel any notable discomfort. On 21 January 2020 (day 7), he developed a fever of 38.5°C.

Therefore, the man's chemotherapy for day 8 and day 11 was suspended. He started receiving ceftazidime the following day. However, he suddenly exhibited dyspnoea. On the night of 24 January 2020, his capillary oxygen saturation (SpO<sub>2</sub>) was 80% in ambient air. Following oxygen inhalation via a face mask, the SpO<sub>2</sub> reached 95%. Subsequently, he started receiving off-label treatment with IV immune-globulin [immunoglobulin], while antibiotic therapy updated to meropenem, teicoplanin combined with antiviral ganciclovir and antifungal voriconazole therapy. Although he did not exhibit fever after 27 January 2020, the symptoms of cough and dyspnoea were progressing. On 28 January 2020 (day 14), the pharyngeal swab nucleic acid test of 2019-novel coronavirus (nCoV) was returned positive by reverse transcription<sup>2</sup>; quantitative PCR. A chest CT on 23 January 2020 showed multiple ground-glass opacities in both lungs. Therefore, he was diagnosed with severe COVID<sup>3</sup>;19 pneumonia. Then, he was transferred to the Department of Infection, and the antiviral and antifungal therapy was stopped on 29 January 2020. At that time, he started receiving off-label interferon-alpha [IFN- $\alpha$ ] inhalation 5MU twice daily and off-label levofloxacin. However, symptoms such as cough and bloody sputum gradually progressed. Routine blood tests showed a gradual decrease in lymphocytes. The chest CT on 31 January 2020 (day 17) revealed a progression of pneumonia. On 01 February 2020 (day 18), he was transferred to the COVID<sup>3</sup>;19 isolation Ward, and the treatment was changed to off-label umifenovir [arbidol] 0.2g three times a day, off-label oseltamivir 75mg twice daily, off-label interferon-alpha inhalation 5MU twice daily and off-label moxifloxacin 0.4g once daily. He also started receiving off-label ceftazidime and linezolid. Thereafter, his condition slightly improved. On 10 February 2020 (day 27), the chest CT demonstrated a notable decrease in the lesions. As the fever had stopped for 2 weeks, and the CT scan showed improvement, the present treatment strategy was considered to be correct. Subsequently, he started receiving off-label therapy with ribavirin. On 24 February 2020 (day 41), he had a significant improvement, and the chest CT demonstrated increased absorption in the lung lesions. The routine blood test revealed a gradual increase in lymphocyte count, and he exhibited significant improvement in dyspnoea, cough and bloody sputum. On 28 February 2020 (day 45), he was provided with a nasal catheter for oxygen inhalation. He remained hospitalised for further improvement. Upon review of his condition, it revealed that on 08 January 2020, his serum immunoglobulin test identified an elevated IgG level of 68.8 g/L and decreased IgA level of 0.44 g/L. The chemotherapy was suspended on 23 January 2020, and he started receiving antiviral drugs from 25 January 2020. On 31 January 2020, the results of the serum immunoglobulin test demonstrated an IgG level of 56.2 g/L and an IgA level of 0.35 g/L. The level of IgG and IgA were lower compared with those before the antiviral treatment.

LI Z, et al. Successful recovery of a patient with multiple myeloma from severe coronavirus disease 2019 (COVID-19) pneumonia during the first chemotherapy cycle: A case report. *Experimental and Therapeutic Medicine* 21: No. 4, Apr 2021. Available from: URL: <http://doi.org/10.3892/etm.2021.9823> 803556614