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LETTER TO THE EDITOR

Nivolumab as a safe and effective treatment in an HIV patient with refractory Hodgkin lymphoma

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Dear Editor,

Nivolumab-mediated PD-1 blockade is highly effective in many tumors with an acceptable toxicity profile [1–3].

We report a case of successful nivolumab treatment in a patient with HIV infection with CD4 counts persistently below 200/μL, and classic Hodgkin's lymphoma (cHL) refractory to multiple chemotherapy regimens including both autologous stem cell transplant and bretuximab vedotin.

In February 2014, a 50-year-old man was diagnosed of cHL mixed cellularity, stage IIIBs, Epstein-Barr virus (EBV) related. The patient was affected by AIDS (pneumocystis infection during HIV) since 1994, refractory to different antiretroviral therapies (ART), complicated by HCV and HBV coinfection. He started treatment with adriblastine, dacarbazine, and bleomicine (ABD) removing vinblastine because of ART-related neuropathy. Interim PET showed a good response with 5-point Deauville Score (DS) = 3. Unfortunately, after 6 courses, the CT-PET documented a progressive disease (PD). BeGEV regimen (bendamustine, gemcitabine, vinorelbine, dexamethasone) was started, intended as a bridge to ASCT, but after three cycles CT-PET showed no response [4]. A third-line treatment with bleomicine, adriamicine, vincristine, ciclofosfamide, procarbazine, etoposide, and prednisone (BEACOPP) was administered for three cycles, finally resulting in a negative PET, so in September 2015 the patient underwent to ASCT with FEAM (fotemustine, etoposide, melphalan, cytarabine) conditioning regimen.

During the entire period of treatment, the HIV load was undetectable with a CD4 count persistently below 200/μL although the patient never stopped ART with emtricitabine/tenofovir disoproxil fumarate plus raltegravir. After 7 months from ASCT, the patient experienced a massive relapse with lung and bone involvement (stage IVB), refractory to both, a therapeutic regimen with cysplatinum and high-dose cytarabine plus dexamethasone (DHAP) (performed for 3 courses) as well as the anti-CD30 monoclonal antibody brentuximab vedotin (performed for 8 courses) [5]. The clinical conditions dramatically worsened and he had to be hospitalized for a severe pneumonia requiring systemic antibiotic and antifungal treatments, while a CT scan showed a new progression of disease.

CD4 count dropped to 58/μL. The patient was no longer able to tolerate further chemotherapy so we decided to offer him an anti-PD1 treatment (nivolumab 3 mg/kg every 2 weeks) [6, 7].

Already after the second administration, he had a remarkable improvement of performance status. After 6 courses, the restaging CT-PET documented a regression of all disease localization except for a new site of increased uptake localized on the left upper lung lobe subsequently interpreted as a pseudoprogression, which disappeared in the following controls. After 16 courses, CD4 counts increased to 290/μL and HIV load was still undetectable, while the performance status impressively recovered to ECOG = 0. No serious treatment-related adverse events were recorded, except for a grade 2 thrombocytopenia resolved with therapy delay.

Some experiences suggest that PD-1/PDL-1/PD-L2 immune inhibitory pathway could play a role in chronic HIV infection: checkpoint inhibitors could potentially enhance immune effector responses restoring virus-specific T cells [8].

Our experience, together with two other cases reported, suggests that HIV infection is not a contraindication to anti-PD1 treatment when indicated, while it could even improve the immunological surveillance during HIV infection [9, 10].

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Compliance with ethical standards

Informed consent was obtained from the patient for the treatment.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Conflict of interest The authors declare that they have no conflict of interest.

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