Conclusion and Relevance Based on our findings, TT and ICI therapies are comparable to pivotal studies in terms of duration, safety, and reasons for treatment discontinuation. In patient mut-BRAF, TT seems to show a better RFS when compared to ICI. However this could be due to the different stages of disease; stage IV (visceral involvement) is eligible only for ICI therapy and this can lead to a worse prognosis.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest

4CPS-143 CORE BINDING FACTOR ACUTE MYELOID LEUKAEMIA FOLLOWING IMMUNE CHECKPOINT INHIBITION FOR SOLID TUMOURS: TWO CASE REPORTS AND LITERATURE STATE OF THE ART

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Background and Importance Immune checkpoint inhibition (ICI) can induce responses in patients with advanced malignancies. Although a well-established downside of ICI is its diverse spectrum of immune-related adverse events, the incidence of second primary malignancies associated with ICI is still a matter of debate.

Aim and Objectives We present two consecutive patients treated in our Hospital in 2022 who developed clinically acute myeloid leukaemia (AML) during or after ICI treatment for solid tumours.

Patient 1 is a man with a previous history of metastatic lung adenocarcinoma treated with pembrolizumab, which was stopped due to complete response (CR) 5 months before diagnosis of AML in April 2022. Patient 2 is a woman, with a previous history of ductal breast cancer treated with adjuvant chemoradiotherapy; she also developed a metastatic V600E BRAF-mutated melanoma, treated with BRAF/MEK inhibitors. Finally after two months of pembrolizumab, she developed AML in April 2022.

Material and Methods In both Patients 1 and 2, peripheral blood (PB) and bone marrow blood testing confirmed Core Binding Factor (CBF) AML, according to the presence of (inv16) (p13;q22) in 80% and 70% of blasts in the PB, respectively.

According to ESMO AML Guidelines, therapy with gemtuzumab ozogamycin associated standard chemotherapy was recommended for both patients.

Results Patient 1 achieved a CR after induction and consolidation therapy; patient 2 performed cytarabine-based consolidation therapy due to leukaemia-aberrant immunophenotype. Both patients are alive at current follow-up (4 months after diagnosis).

Conclusion and Relevance A case of AML after 3 cycles of pembrolizumab for the treatment of non-small-cell lung cancer and 5 cases of myeloid neoplasia after treatment with ICIs were recently reported.

Hyperprogression of subclinical myeloid malignancies could be a potential explanation since a myeloid clone with acquired driver mutation(s) could obtain an extra proliferation advantage from functional myeloid PD-1 knockout after ICI. Abberant PD-1 expression was observed in 8–26% of CD34+ blasts in myelodysplastic syndromes, chronic myelomonocytic leukaemia, and AML. Moreover chemotherapy and BRAF inhibitor exposure, together with short exposure to pembrolizumab in Patient 2, suggest a major role of previous therapies in the development of AML.

The correlation between ICI and myeloid neoplasias is still uncertain.

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Conflict of Interest No conflict of interest

4CPS-152 PERSISTENT CYTOPENIA AFTER CAR-T CELLS: TREATMENT WITH ELTROMBOPAG: A CASE REPORT

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Background and Importance Impaired haematopoietic recovery is observed in about 30–50% of patients treated with anti-CD19 CAR-T cells, with prolonged cytopenia appearing as an unmet need for optimal treatment. Generally, treatment consists in the use of erythropoietin and G-CSF (Granulocyte Colony Stimulating Factor). Thrompopoietyn receptor agonists (TPOa) can be on option too, on the basis of their consolidated use in refractory poor graft function, following allogeneic stem cell transplantation and aplastic anaemia.

Aim and Objectives We present a 72 year old patient who received commercial tisagenlecleucel treatment for a diffuse large B-cell lymphoma (DLBCL) in July 2021. Complete molecular response at one month from infusion was obtained but persistent cytopenia was developed, requiring transfusional support.

Material and Methods At 28 days from CAR-T infusion, the patient showed pancytopenia, which persisted in the following months and required transfusions of both platelets and erythrocytes. No clinical response to erythropoietin nor G-CSF was obtained. In March 2022, bone marrow examination allowed to exclude the myelodysplastic syndrome diagnosis and showed relative myeloid hyperplasia and altered distribution of megakaryocytes. In June 2022, the patient was receiving monthly transfusion of erythrocytes and fortnightly transfusion of platelet, despite supportive care. Complete molecular response of lymphoma was confirmed. Treatment with eltrombopag was started at 50 mg/day.

Results Haematologic recovery was progressively obtained, achieving independence from transfusion as 40 days since starting the eltrombopag therapy; treatment with erythropoietin was stopped at 60 days and the G-CSF administration frequency was progressively reduced to 1 G-CSF dose per week. Eltrombopag dose was maintained at 50 mg/day, with no side effects.

Conclusion and Relevance The mechanism for late-onset cytopenia following CAR-T cells is still not clear, but it could be related to the sustained role of cytokines secreted by CAR-T cells during their expansion phase and during the following persistence phase. A series of 6 patients treated with eltrombopag and one patient treated with romiplostim are reported, with positive results in terms of haematological recovery. Although, further data on the role of TPOa in post-CAR-T