The importance of anti-PD-1 dosing in the treatment of patients with inoperable or metastatic melanoma

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Introduction

Anti-programmed cell death-1 antibodies (anti-PD-1) has become a standard treatment option for melanoma patients. Unfortunately, there are no clinical data on the efficacy of anti-PD-1 at fixed-doses in routine practice.

Material and Methods

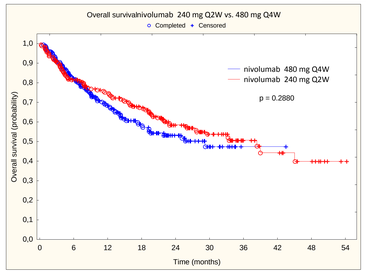
Consecutive patients treated with nivolumab (N) or pembrolizumab (P) for inoperable and metastatic melanoma in comprehensive cancer centers between 2016 and 2020 were enrolled in the study. The initial anti-PD-1 dose in mg/kg was calculated in patients. Baseline factors together with the initial dose anti-PD-1 were evaluated to identify predictors of progression-free (PFS) and overall (OS) survival. PFS and OS were assessed using Kaplan–Meier and Cox models. The Chi Square statistic was used for testing relationships between categorical variables.

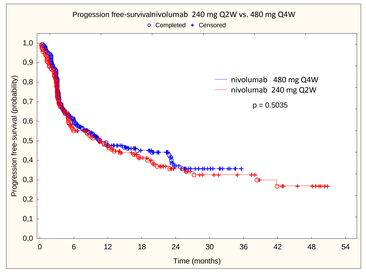
Results

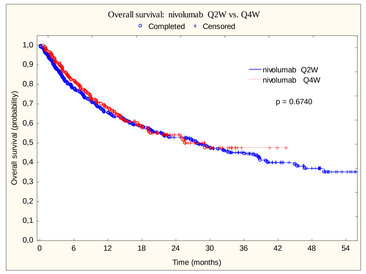
Overall, 1053 patients were included in the present analysis (N=590, P=463). In N group there were no differences in OS and PFS between the group 240 mg Q2W vs. 480 mg Q4W and in OS between the group that received the first dose of $N \leq 3$ mg/kg vs. > 3 mg/kg or treatment Q2W vs. Q4W. In univariate analysis there were statistically significant differences in PFS between the group that received the first dose of $N \leq 3$ vs. > 3 mg/kg (p=0.0002, HR=1.6, Cl 95% 1.2-2.0) or treatment Q2W vs. Q4W (p=0.0023, HR=1.4, Cl 95% 1.1-1.8), this was not confirmed in the multivariate analysis. The first dose of $N < 3$ vs. ≥ 3mg/kg correlated with response to treatment (RR) and disease control rate (DCR) (p=0.03 and p=0.013, respectively) but not correlated with the occurrence of immune related adverse events (irAEs). Treatment Q2W vs. Q4W and 240 mg Q2W vs. 480 mg were not correlated with RR or DCR, however there were correlated with the occurrence of irAE (p=0.003 and p=0.005, respectively).

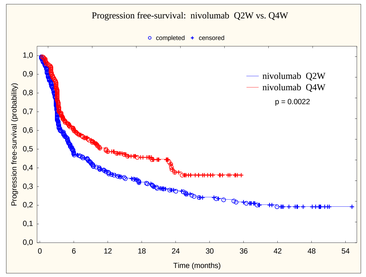
In P group there were no significant differences in OS and PFS between the group that received the first dose of $P \leq 2$ and >2 mg/kg, treatment Q3W vs. Q6W and 200 mg Q3W vs. 400 mg Q6W. There were also no correlation with RR or DCR however, there was correlation with the occurrence of irAEs.

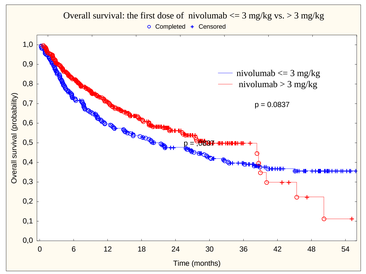
Nivolumab

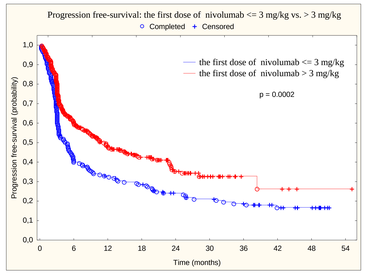




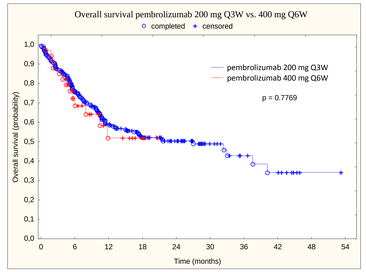


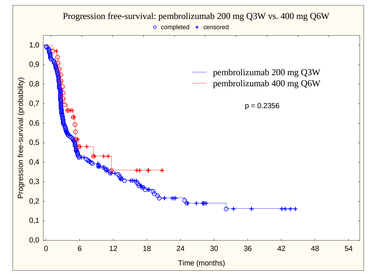


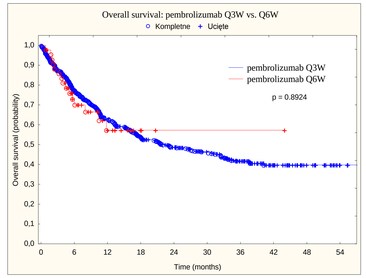


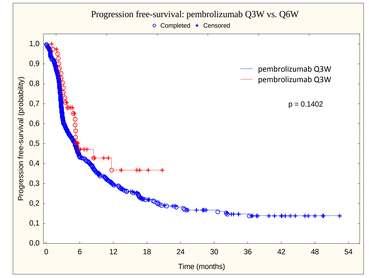


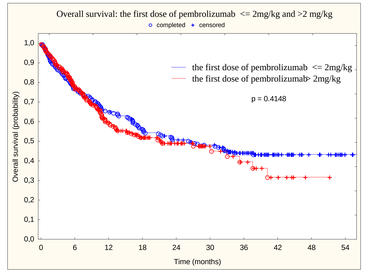
Pembrolizumab

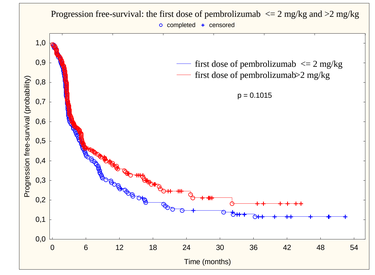












Conclusions

Anti-PD-1 dosing had no effect on OS and PFS in the multivariate analysis in the study population. However, a correlation of dosing with the occurrence of irAE was demonstrated, but it requires confirmation in further studies.

Disclosures

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