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Evaluation of predictive factors in patients with advanced melanoma treated with immune checkpoint inhibitors in a real-world population.

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Background

Immune checkpoint inhibitors (ICIs) significantly improved outcomes of metastatic melanoma, however less than 50% of patients achieve a long-term benefit [1,2]. Identification of predictive factors of response to ICIs a priority to permit an early detection of non-responder patients [3].

Methods

We retrospectively analysed **124 adult patients** with advanced melanoma treated with ICIs from 1st January 2014 to 31st December 2020 at the Candiolo Cancer Institute. We evaluated gender, age, performance status, body mass index, BRAF and NRAS mutational status, stage, presence of liver metastases, LDH, C-reactive-protein (CRP), complete blood count values and concomitant steroid at baseline. Median progression free survival (mPFS) and overall survival (mOS) were evaluated with the Kaplan-Meier method. Comparison between groups was performed with log-rank test. Multivariate analysis was performed considering factors that showed a significant difference in the subgroup analysis. Results with a p-value <0.05 were considered statistically significant.

Results

In the whole cohort most patients (72.6%) received ICI as first line therapy. 37 patients (29.8%) received Ipilimumab, while 87 patients (70.2%) received anti-PD1 as first ICI. In the overall population the mPFS was 4.4 months and the mOS 28.4 months. In the subgroup analysis patients with **BRAF** wild-type (p=0.011), **stage** M1a-b (p<0.001), absence of **liver** metastases (p=0.01), normal **LDH** (p=0.024) and **CRP** (p=0.022) had significantly prolonged PFS, while patients with **stage** M1a-b (p=0.01), normal **CRP** (p=0.038) and lower monocyte to lymphocyte ratio (**MLR**) (p=0.04) [Figure 1] had better OS. At multivariate analysis **stage** (p=0.005), class of **ICI** (p=0.036) and **MLR** (p=0.026) were independently correlated with PFS, while **stage** (p=0.002), **CRP** (p=0.038) and **MLR** (p=0.022) were correlated with OS.

Conclusions

MLR, CRP and stage are significantly correlated with outcomes in advanced melanoma patients treated with ICIs. The described results suggest considering the incorporation of these easy-to-use factors in future predictive models.

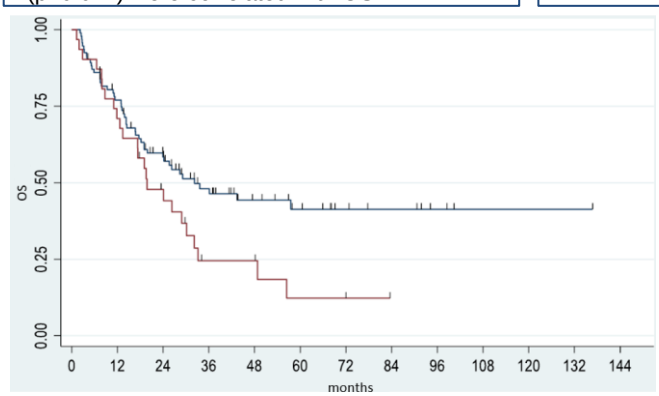

Fig. 1. Analysis of Overall Survival stratified by monocyte to lymphocyte ratio (red line: higher; blue line: lower)

Bibliography

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