

# Correlation between therapeutic efficacy and adverse events in patients with metastatic melanoma treated with immune checkpoints inhibitors.

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## Introduction

During the last decades, the therapeutic approach to metastatic melanoma has widely changed due to the introduction of immune checkpoint inhibitors (ICIs) direct against receptors (CTLA4, PD1 and its ligand PDL1) that cause T cell exhaustion. These monoclonal antibodies have shown survival advantage over chemotherapy in the treatment of metastatic melanoma, however patients responding to ICIs would have greater likelihood of autoimmune toxicities such as interstitial pneumonia, colitis, hypothyroidism, liver dysfunction, skin rash, vitiligo, hypophysitis and myositis.

## Objective:

The objective of our study was to evaluate the association between therapeutic efficacy of the immune checkpoint inhibitors and the onset of immune-related adverse events (irAEs) in patients with metastatic melanoma.

## Material and Methods:

Twenty patients (median age 63 years) with metastatic melanoma have been treated with Pembrolizumab (anti-PD1), Nivolumab (anti-PD1) and Ipilimumab (anti-CTLA4). Therapeutic efficacy has been evaluated through imaging techniques such as computer tomography (CT) or positron emission tomography (PET)/CT every 3 months. We also evaluated the progression free survival(PFS) as the time elapsed between treatment initiation and tumor progression and overall survival (OS) as the time elapsed between treatment initiation and death.



## Results:

Among the 20 patients treated with Ipilimumab (3), Pembrolizumab (9), Nivolumab (7) and Ipilimumab plus Nivolumab (1), one patient developed bullous pemphigoid and 4 patients developed vitiligo. Those patients who developed immune-related adverse events (grade I and II) had shown a better PFS and OS compared to patients who didn't experience such irAEs.

## Conclusions:

Despite the small number of patients, our preliminary data demonstrate that patients with irAEs showed a markedly improved efficacy over patients without irAEs.

1. Efficacy and Adverse Events of Immunotherapy with Checkpoint Inhibitors in Older Patients with Cancer.van Holstein Y, et al. Drugs Aging. 2019. PMID: 31317421 Free PMC article. Review.
2. Correlations Between the Immune-related Adverse Events Spectrum and Efficacy of Anti-PD1 Immunotherapy in NSCLC Patients.Cortellini A, et al. Clin Lung Cancer. 2019. PMID: 30885550 Clinical Trial.