Introduction

Objective: To evaluate the expression of tumor-specific neoantigen vaccine (NEO-PV) associated T cell responses and the tumor microenvironment (TME) in patients with metastatic melanoma treated with NEO-PV in combination with nivolumab.

Methods

- Patients with metastatic melanoma who received at least 1 dose of NEO-PV-01 prior to August 2018 were included.
- Tumor biopsies were collected and analyzed to evaluate T cell recognition and T cell responses.
- NEO-PV-01 was administered in combination with nivolumab.

Results

- Tumor samples were analyzed for the expression of tumor-specific neoantigens.
- T cell responses were evaluated using a comprehensive gene expression analysis tool.
- The TME was assessed using various molecular markers.

Discussion

- Higher B cell signatures were associated with DCB in melanoma patients.
- Increased expression of TCF7+ CD8+ T cells was observed in patients with DCB.

Abbreviations:

- DCB: De Novo B Cell
- NSCLC: Non-Small-Cell Lung Carcinoma
- PD: Progressive Disease
- PD-1: Programmed Cell Death-1
- TCC: Transitional Cell Carcinoma
- TIS: Tumor Inflammation Signature
- TLS: Tertiary Lymphoid Structure

Summary

- Changes in immune cell signatures and populations within the TME were detected after treatment with NEO-PV-01 and nivolumab.
- Patients with DCB have higher expression of tumor-specific neoantigens in the tumor microenvironment.
- Increased expression of TCF7+ CD8+ T cells and immune aggregates of B cells and T cells were found in patients with DCB.
- Pre-treatment expression of B cells, T cells, TLS, and DCB are predictive of survival.