Scientific Foundation SPIROSKI, Skopje, Republic of North Macedonia
South East European Journal of Immunology. 2025 Mar 25; 8(CITIM):060.
https://doi.org/10.3889/seejim.2025.6125
eISSN: 1857-9388
Category: *CITIM - Cancer Immunotherapy & Immunomonitoring (CITIM2025)*
Section: *Invited lectures*

Case reports and review of immune checkpoint inhibitor therapy and vitiligo in advanced cutaneous melanoma

Dace Pjanova*, Simona Donina

Riga Stradins University, Science Hub, Riga, Latvia

Citation: Pjanova D, Donina S. Case reports and review of immune checkpoint inhibitor therapy and vitiligo in advanced cutaneous melanoma. SEE J Immunol. 2025 Mar 25; 8(CITIM):060 https://doi.org/10.3889/seejim.2025.6125
Keywords: Vitiligo; Melanoma; Immunotherapy; Pembrolizumab; Biomarker
***Correspondence:** Dace Pjanova. Riga Stradins University, Science Hub, Riga, Latvia.
E-mail: dace.pjanova@rsu.lv
Received: 01-Mar-2025
Accepted: 25-Mar-2025
Copyright: © 2025 2025 Dace Pjanova, Simona Donina. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist

Abstract

Vitiligo is a relatively benign autoimmune condition characterized by the destruction of melanocytes, leading to depigmentation of the skin. While primarily considered a cosmetic disorder, emerging evidence suggests that vitiligo may have important prognostic implications in oncology, particularly in melanoma. Several studies have reported an association between vitiligo development and treatment response in advanced melanoma patients undergoing immunotherapy. Although vitiligo expansion does not directly correlate with tumour regression, it has been linked to prolonged progression-free survival (PFS) and shows a trend toward improved overall survival (OS). This suggests that vitiligo may serve as an immune-related biomarker indicative of a favourable clinical course during immunotherapy.

Here, we present two cases of advanced melanoma (BRAF wild-type) treated with pembrolizumab, emphasizing the complex interplay between vitiligo and immune-mediated responses to treatment. **Case 1:** a 77-year-old male diagnosed with stage IIIC metastatic melanoma developed vitiligo during pembrolizumab treatment. Despite the persistence of metastatic disease, he has maintained stable disease over an extended period, suggesting a potential link between vitiligo onset and durable disease control. **Case 2:** a 68-year-old male with metastatic melanoma developed long-term eyelash poliosis, a localized depigmentation phenomenon, during pembrolizumab therapy. Similar to the first case, he has exhibited stable disease, reinforcing the hypothesis that vitiligo and related depigmentation phenomena may be associated with favourable immunotherapy outcomes.

These cases, alongside accumulating literature, support the potential role of vitiligo as a biomarker for prolonged survival in melanoma patients undergoing anti-PD-1 therapy. A deeper understanding of vitiligo expansion, its mechanistic connection to anti-tumour immunity, and its clinical implications could enhance prognostic assessment and aid in optimising the management of immune-related adverse events during immunotherapy.

.