Dermatology Practical & Conceptual

Lichen Planus-Like Exanthema Induced by Anti-PD-1 and Anti-LAG-3 Combination Immunotherapy Could Potentially Predict the Treatment Response in Metastatic Melanoma

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Introduction

A combination therapy using nivolumab (anti-PD-1) and relatlimab (anti-LAG-3) has been compared head-to-head with a monotherapy of nivolumab and shown a statistically significant improvement in progression-free survival rate, with minimal increase in toxicity [1]. Based on these unprecedented results, nivolumab and relatlimab are currently considered the new gold standard in first-line treatment of advanced melanoma [1,2].

Case Presentation

A 50-year-old male transferred to our department after a resection of melanoma lymph node metastasis in the left groin area. We initially performed a whole-body CT scan and MRI of the brain which revealed the involvement of multiple lymph nodes in the left groin area and axilla, para-iliac and para-aorta left, in the mediastinum, and under the left clavicle. Furthermore, we performed dermoscopic, otorhinolaryngological, and urological examinations, which did not

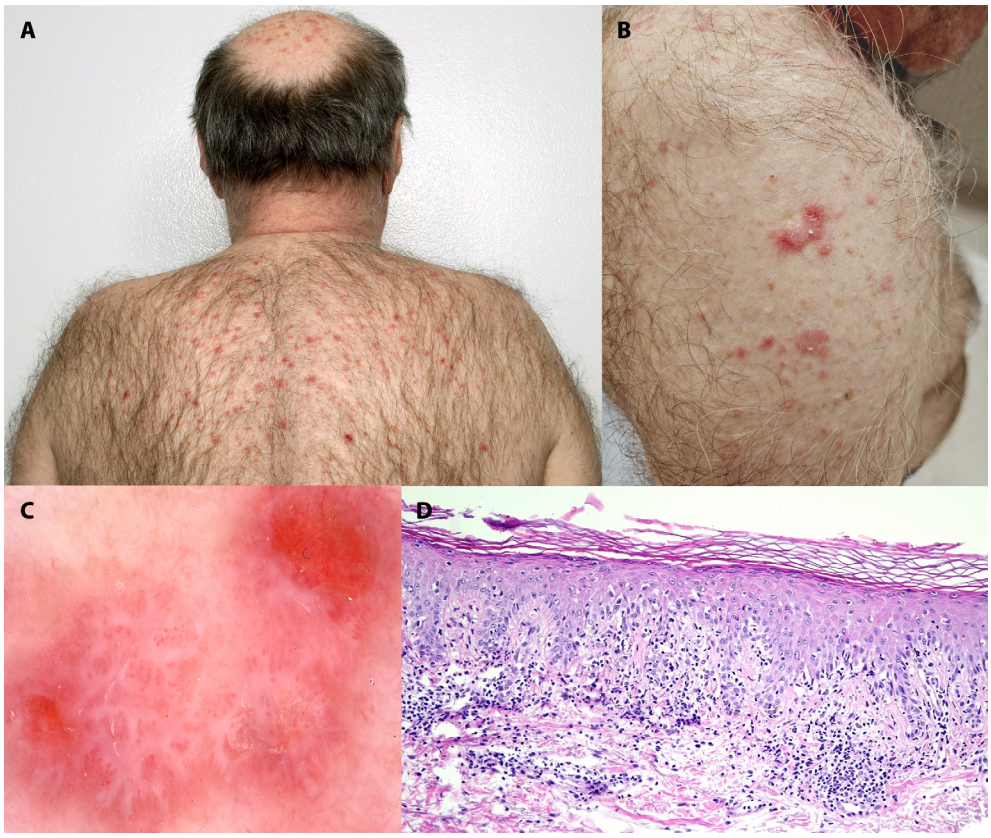

Figure 1. (A) Overview of the clinical picture of the lichen planus-like exanthema induced by nivolumab and relatlimab. (B) Clinical presentation of lichenoid papules on the right arm. (C) Dermoscopic picture of lichenoid papules. (D) Histological picture (H&E, magnification ×200). Lichenoid interface dermatitis with patchy lymphocytic infiltrate with some eosinophils and plasma cells in the superficial dermis.

identify any trace of primary melanoma. The testing of the *BRAF* mutation (*BRAF V600E* mutated) and initial blood tests (lactate dehydrogenase in the normal range) were performed. The conclusive findings confirmed a diagnosis of a metastatic malignant melanoma of unknown primary origin in stage 4A. According to the guidelines, we decided to start first-line of systemic therapy with nivolumab 480 mg and relatlimab 160 mg every 4 weeks [2]. The first 3 infusions resulted without any complications. However, after the fourth infusion, an extensive exanthema with pink itchy flat-topped lichenoid papules appeared on the scalp, décolletage, upper third of the back, arms, and thighs (Figure 1, A and B). The mucosa and nail plates were intact. Dermoscopic examination showed Wickham striae, red dots, and radial capillaries [3] (Figure 1C). This immune-mediated adverse event (AE) was evaluated as grade II [4]. A punch biopsy was performed and subsequently, a histological evaluation confirmed the diagnosis of a lichen planus-like exanthema (Figure 1D). Topical therapy with clobetasol propionate, in combination with bilastine 20 mg per day, was initiated, which led to a fast decrease in pruritus. Due to the promising effects of clobetasole, we decided not to interrupt the oncological treatment. On the first re-staging, after 12 weeks of therapy, a partial response was achieved.

Conclusions

Based on the available data, mainly related to anti-PD-1 +/- anti-CTLA-4 immunotherapy, there appears to be a correlation between cutaneous immune-mediated AEs, such as lichen planus-like exanthema etc., and a better prognosis in patients with advanced melanoma [5]. As our case may have shown, it seems that cutaneous AEs do potentially also have the same positive prognostic capabilities in patients with a combination treatment using nivolumab and relatlimab.

Ethics Statement: The patient voluntarily signed consent for the publication of the case.

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