ANSWER TO PHOTO QUIZ (PAGE 258)

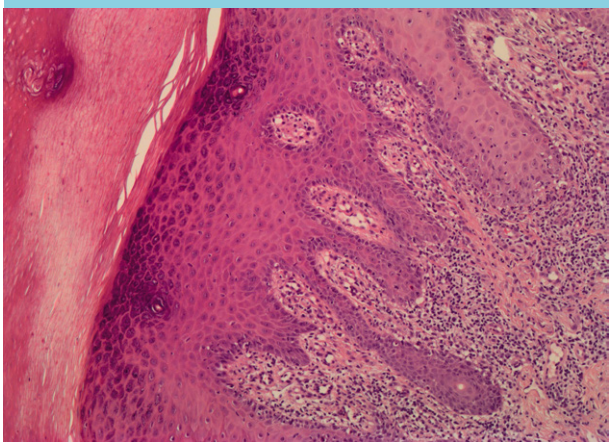
CUTANEOUS ADVERSE EFFECTS OF IMMUNOTHERAPY

DIAGNOSIS

Histopathological examination of skin biopsies taken from squamous papules located on the flank and on the hand both revealed a lichenoid interface dermatitis with vacuolar degeneration of the epidermis and presence of Civatte bodies (*figure 2*). We made a diagnosis of lichenoid mucocutaneous eruption and vitiligo due to the use of nivolumab. These cutaneous adverse events reflect T-cell mediated immunity towards keratinocytes and melanocytes, activated by immune checkpoint inhibition. In the development of vitiligo due to immunotherapy specific T-cells against MART-1, gp100 and tyrosinase seem to play a role. But also MART-1 reactive antibody responses are suggested to be important. The mechanisms of breaking tolerance to MART-1, which lead to antibody responses, may be dependent on T-cell help, but deserve further investigation.[2] More than 15% of patients treated with anti-PD1 antibodies experience cutaneous adverse effects.[3] In 82 patients treated with nivolumab at an institution in Australia, 17% of patients developed a lichenoid eruption and 17% developed vitiligo.[4]

Development of vitiligo or skin eruption in patients receiving anti-PD1 antibody therapy for melanoma is associated with better survival.[5] In patients treated with ipilimumab or adoptive T-cell transfer the occurrence of vitiligo has been reported, but not of lichenoid skin eruption. Treatment with topical and systemic corticosteroids resulted in significant improvement. The patient's melanoma has already been in remission for 17 months.

Figure 2. *Histopathology of plantar skin lesion showing lichenoid interface dermatitis (magnification 100x)*



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