Vitiligo in Sezary patients treated with mogamulizumab: 3 cases

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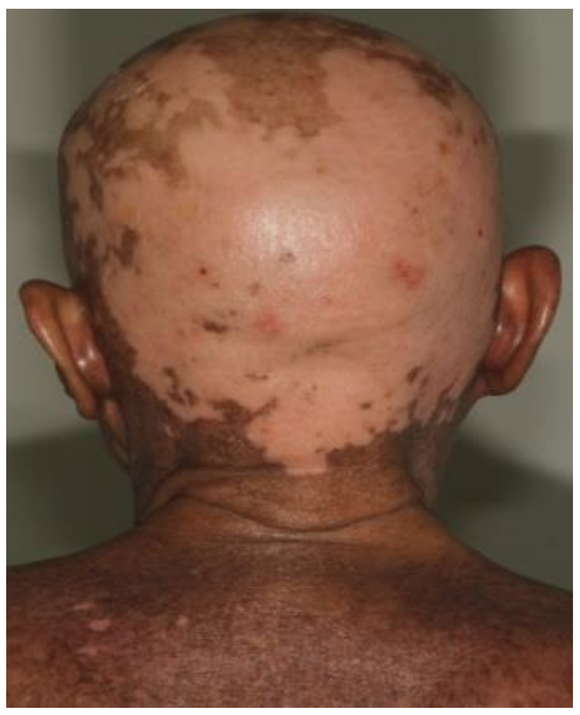
Introduction

Prolonged complete remissions (CRs) are rare in cutaneous T-cell lymphoma (CTCL). Mogamulizumab, a monoclonal antibody targeting the chemokine receptor 4 (CCR4), has shown superior efficacy over vorinostat in relapsed or refractory CTCL.
Autoimmune side effects have been reported with mogamulizumab.
We report the cases of 3 patients treated with mogamulizumab for Sezary syndrome (SS) with prolonged CR associated with vitiligo that appeared after mogamulizumab.

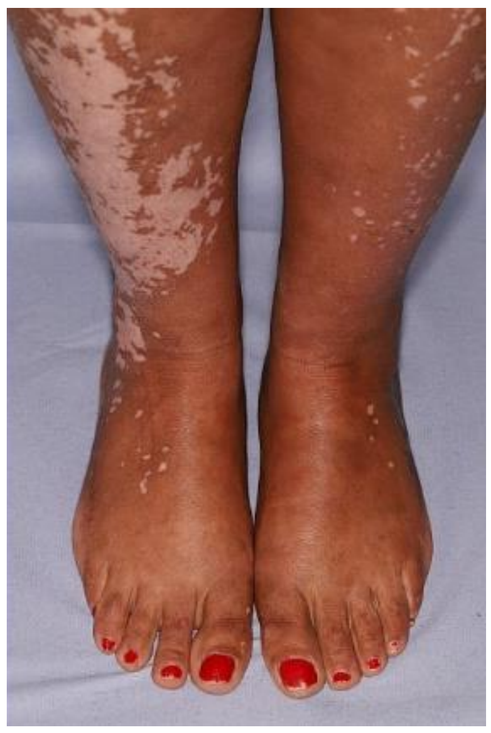
Clinical cases

- *Case 1*: A 66-year-old woman with no previous history presented with stage IVa1 SS refractory to 3 lines of treatment. After 2 months of mogamulizumab, she had a biological and clinical CR and developed grade 3 cytolysis possibly related to the treatment, which resolved upon discontinuation of mogamulizumab. Maintenance treatment with bexarotene was initiated. At 7 months after the start of mogamulizumab, she developed vitiligo on her face and hands while still on CR of her SS. She is still in CR after 6 months of follow-up.



- ***Case 2*:** A 72-year-old woman with no history of autoimmunity had stage IVa1 SS, refractory to 6 lines of treatment. After 6 months of mogamulizumab, she developed vitiligo on her scalp, upper limbs and trunk. After 8 months of mogamulizumab, she achieved CR and wished to discontinue treatment because of very poor venous capital. She is still in CR after 4 years of follow-up.

- ***Case 3*:** A 38-year-old woman with no history of autoimmunity presented with SS in October 2019. The Sezary cells represented 40% of total lymphocytes (10,880/mm3). Treatment with mogamulizumab was started in December 2019. After 8 months of treatment, she was in CR for blood, and in clinical partial remission. She developed hypopigmented lesions on her legs. Histopathology and immunohistochemistry performed on a lesional skin biopsy showed a lymphocytic infiltrate compatible with Sezary cells. The SOX10 marker was negative, consistent with vitiligo, and the PAS stain was completely negative.



Discussion

We report here the cases of 3 patients with SS who developed vitiligo approximately 6 months after mogamulizumab, associated with a durable CR of SS. CCR4 is primarily expressed on regulatory T cells (Treg) and type 2 T helper cells. The depletion of CCR4 expressing Tregs could activate cytotoxic T lymphocytes that can also cause melanocyte destruction or other autoimmune manifestations. A single case of vitiligo has been reported in a patient who had experienced 3 other autoimmune events on mogamulizumab: hepatitis, thyroiditis, alopecia areata. The patient in case 1 also developed a possible autoimmune hepatitis to mogamulizumab that could not be documented by a biopsy.
Prolonged CR, including after discontinuation of therapy, have been described in patients with SS who experienced an autoimmune side effect on mogamulizumab.

Conclusion

These three new cases suggest that vitiligo may be another autoimmune manifestation associated with a good response of SS to mogamulizumab.

References

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