Tre-P-08

Granulomatous Rash Associated with Mogamulizumab Mimicking Mycosis Fungoides: A Case Series

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INTRODUCTION

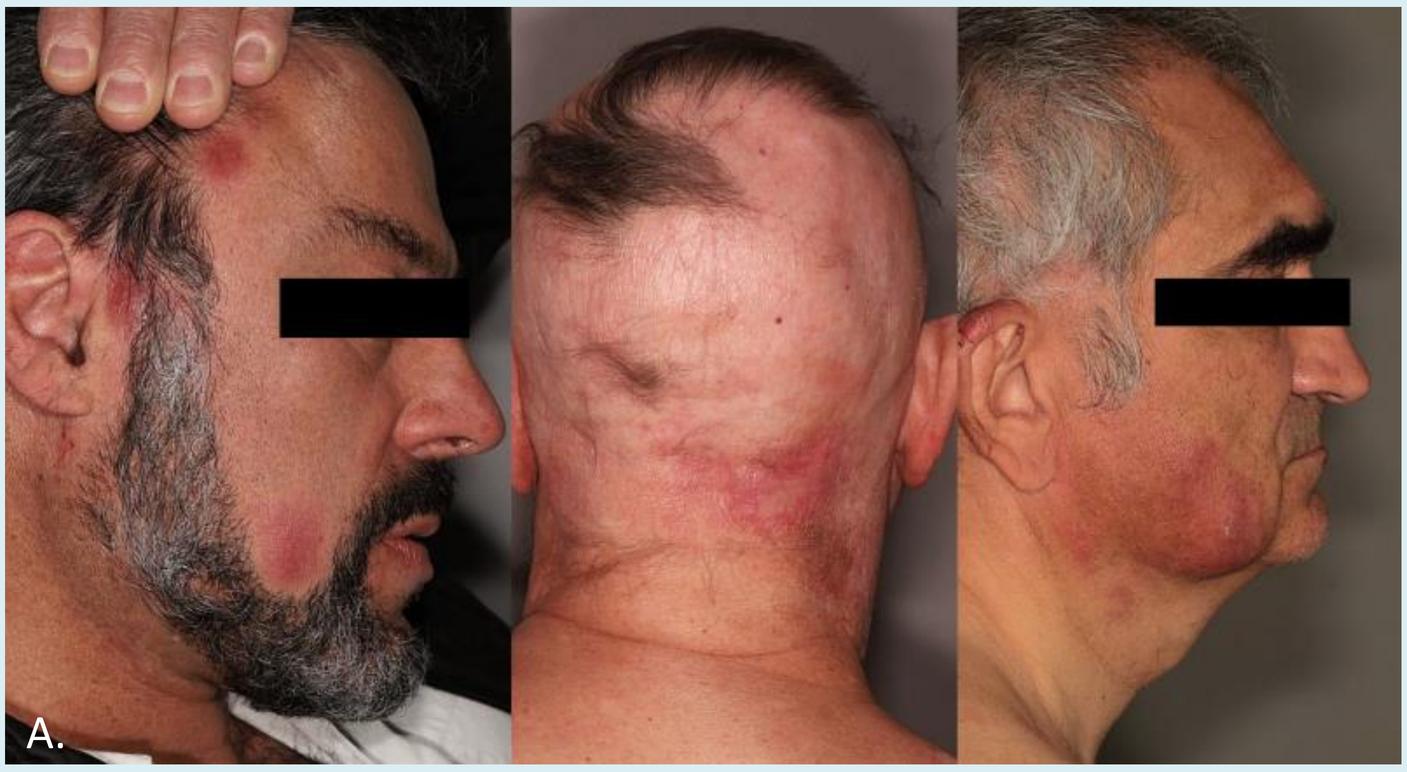
Mogamulizumab, a humanized monoclonal antibody targeting the CCR4 chemokine receptor, has recently been approved for the treatment of cutaneous epidermotropic T lymphomas. Rash has been reported as one of the side effects. We report six original cases of granulomatous mogamulizumab-associated rash on photo exposed areas clinically mimicking disease progression, which poses a challenge for clinicians.

MATERIAL AND METHODS

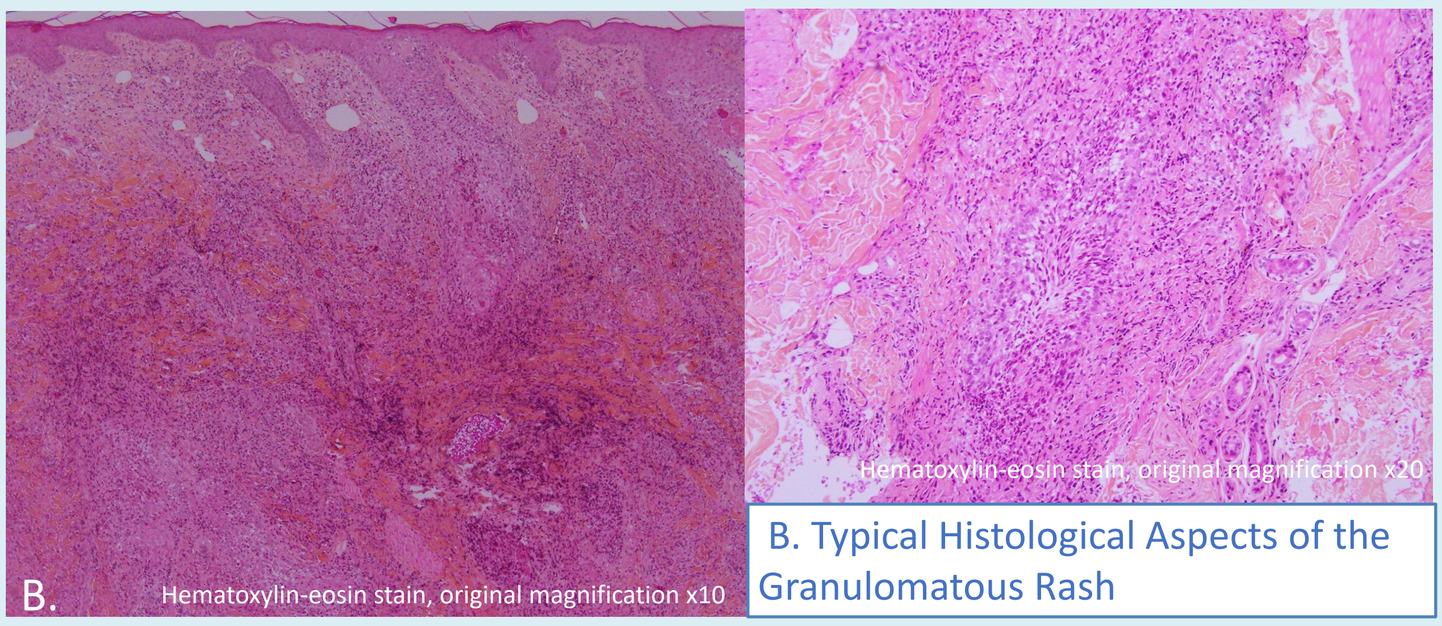
We retrospectively reviewed the patients treated in Saint-Louis hospital with mogamulizumab for mycosis fungoides (MF) or Sezary syndrome (SS) between 2013 and 2021. Six patients presented with a novel granulomatous erythematous rash during treatment. We hereby analyzed their clinical, histological, and molecular characteristics.

RESULTS

Three women and 3 men with a mean age of 52.8 [37- 64] years were included in this study. The diagnoses were made up of 1 erythrodermic MF at stage IIIB and 5 SS at stage IVA, including 2 transformed forms. Patients had received 1.7 treatments on average before mogamulizumab. A complete blood response to mogamulizumab was obtained in all patients with a complete or partial cutaneous response, whereas an infiltrated granulomatous erythematous rash appeared 9.8 [2-17] months after the initiation of the treatment, predominantly on the photo-exposed areas (cheeks, scalp, and neck). (Fig.A)

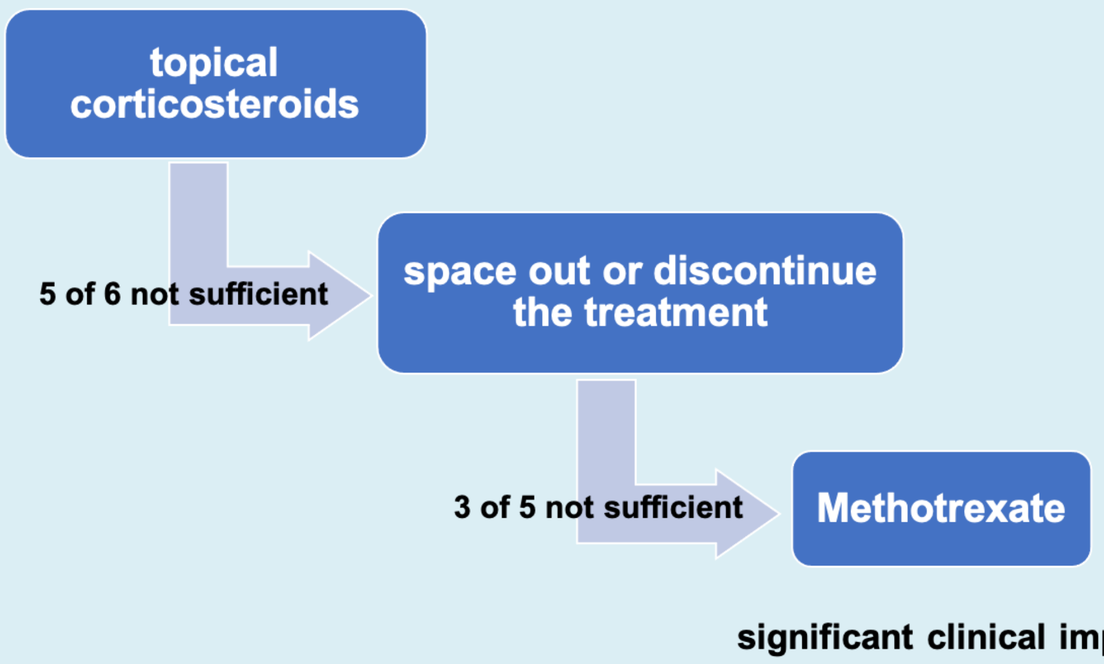


Ten skin biopsies were performed in total, with a granulomatous aspect with abundant lympho-histiocytes, polynuclear eosinophils, and sometimes giant cells. (Fig.B) Spongiosis phenomena in the epidermis (70%), mild lymphocytic exocytosis (20%), and interface dermatitis (10%) were also observed.
Given the pathological aspect and the absence of a beta lymphocyte clone by high-throughput sequencing of T cell receptor genes in the skin, the diagnose of drug reaction was finally made.



B. Typical Histological Aspects of the Granulomatous Rash

The treatment of topical corticosteroids was not sufficient in most (83.3%) cases. For 5 patients, we decided on spacing out treatments every three or four weeks or even discontinuing the treatment. Methotrexate was added in 3 patients with persistent lesions, with a significant clinical improvement. (Fig.C)



C. Management of the Granulomatous Rash Associated with Mogamulizumab in this Series

DISCUSSION

- We present 6 patients treated with mogamulizumab for MF / SS, who developed a granulomatous rash with a predilection for the photo-exposed area.
- The emergence of this rash, which is difficult to distinguish from plaques of MF, was however associated with a good response to the treatment.
- Recognition of this granulomatous rash during the treatment with mogamulizumab, which appears to be fairly typical, is essential to avoid unintentional discontinuation of mogamulizumab.