

## Dermoscopic Evolution of Mycosis Fungoides After Allogeneic Hematopoietic Stem Cell Transplantation: a Case Series

Grażyna Kamińska-Winciorek<sup>1</sup>, Anastazja Szlauer-Stefańska<sup>1</sup>, Włodzimierz Mendrek<sup>1</sup>, Sebastian Giebel<sup>1</sup>

<sup>1</sup> The Department of Bone Marrow Transplantation and Onco-Hematology, Maria Skłodowska-Curie National Research Institute of Oncology (MSCNRIO), Gliwice Branch, Poland

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**Corresponding Author:** Grażyna Kamińska-Winciorek, Department of Bone Marrow Transplantation and Onco-Hematology, Maria Skłodowska-Curie National Research Institute of Oncology (MSCNRIO), Gliwice Branch, Poland; Wybrzeże Armii Krajowej 15, 44-101 Gliwice, Poland. Telephone: +48604070208 E-mail: [dermatolog.pl@gmail.com](mailto:dermatolog.pl@gmail.com)

### Introduction

Allogeneic hematopoietic stem cell transplantation (alloHSCT) is a potentially curative treatment in patients with mycosis fungoides (MF) and may be used in selected patients with advanced disease [1]. The differentiation of MF relapse from other skin diseases that occur after transplantation is challenging. In this case series we present the dermoscopic observation of MF lesions after alloHSCT.

### Case Presentation

We have performed a dermoscopic follow-up of MF skin lesions in 3 patients before and after alloHSCT. Dermoscopic images were captured using the DermLite Cam with polarized light and independently analyzed by two certified

dermoscopists (G.K-W, A.SZ-S), blinded to the clinical status of the disease. The progression was determined as new MF lesions were confirmed in the histopathologic examination.

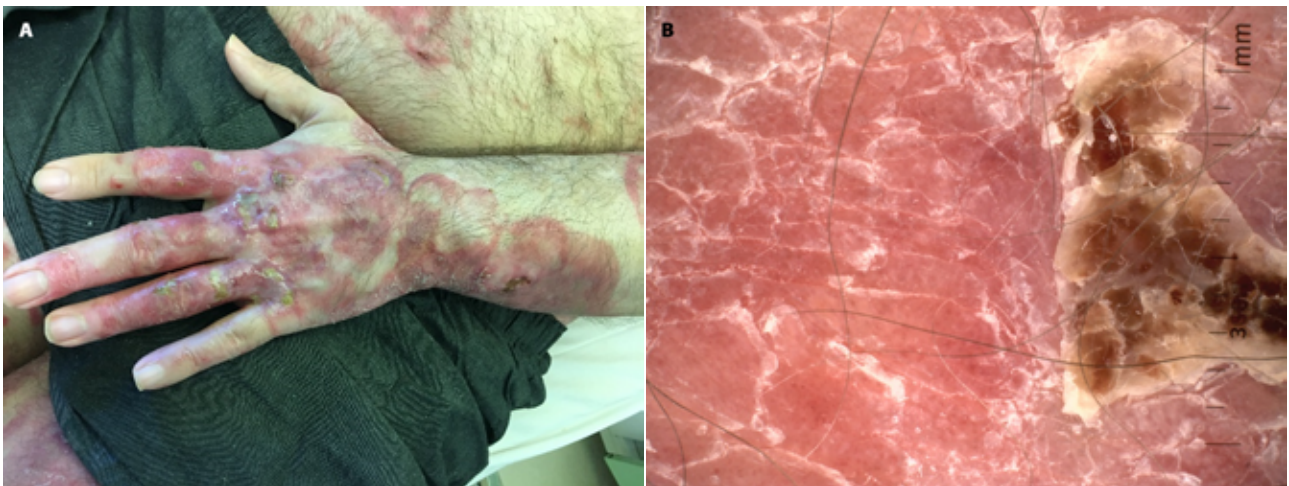
The details of the disease, alloHSCT procedure and dermoscopic assessment are presented in Table 1. Treatment was tolerated well, and there was no case of transplant-related mortality.

In active MF, red and orange color of the background was found with the presence of numerous dotted and/or linear vessels, distributed unspecifically, uniformly, or in clusters. In one case increased white and yellow scaling was noted in patchy distribution. In cases of disease regression, a visible change in background color was noted (from red to skin-colored or light brown) (2/3), with the disappearance of the previously described vessels.

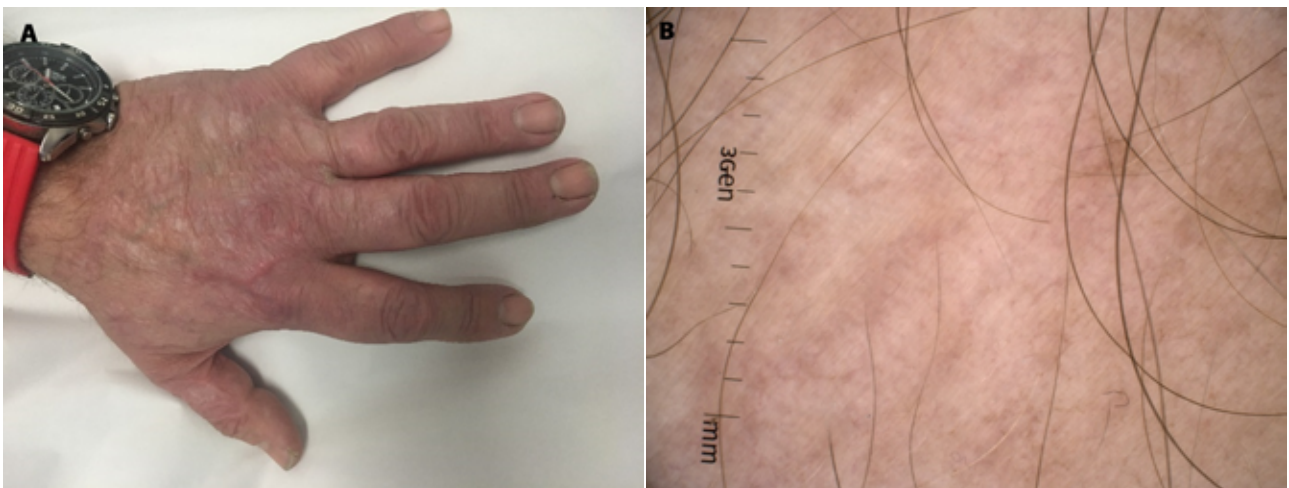
**Table 1. Dermoscopic assessment of skin lesions in the course of allogeneic hematopoietic stem cell transplantation for mycosis fungoides.**

Patient case number; Gender		2; F		3; F							
<b>Conditioning regimen; Donor; Immunosuppression</b>											
Fludarabine+Melphalan; MUD; CsA+Mtx		TSLI+TLLI+ATG; MUD; CsA+MMF		Fludarabine+TBI; MUD; CsA							
<b>Overall response (time after alloHSCT)</b>											
PR, then PD (treated with DLJ), then PR (5,5 years)		CR (3 years)				PD (100 days)					
<b>Day (alloHSCT is day 0)</b>											
-1	+14	+41	+696	-1	+14	+27	+87	-1	+14	+56	+100
<b>Scale (color and distribution)</b>											
White and yellow patchy	-	-	-	-	-	-	-	-	-	-	-
<b>Other structures (color and morphology)</b>											
-	-	brown parallel lines	brown parallel lines	grey dots and globules; white angulated lines	grey dots and globules; white angulated lines	white diffuse structureless areas; grey dots and globules	white diffuse structureless areas; brown dots and globules	white focal structureless areas; brown globules	white focal structureless areas; brown lines	white focal structureless areas; brown focal globules	white focal structureless areas
<b>Vessels distribution and morphology</b>											
unspecific dotted	clustered dotted	-	-	uniform dotted	uniform dotted	peripheral dotted	-	unspecific linear	unspecific linear	unspecific linear	unspecific dotted and linear
<b>Color of the background</b>											
red, orange (salmon)	orange (salmon)	skin-colored	skin-colored	red and purple	orange (salmon)	orange (salmon)	light brown	skin-colored	skin-colored	skin-colored	skin-colored

Abbreviations: alloHSCT- allogeneic hematopoietic stem cell transplantation; ATG- antithymoglobulin; CsA- cyclosporine A; CR- complete remission; DLJ- donor lymphocyte infusion; F- female; M- male; MMF- mycophenolate mofetil; Mtx- methotrexate; no- number; MUD- matched unrelated donor; PR- progressive disease; PD- partial remission TBI- total body irradiation; TLLI- total lymphatic irradiation; TSLI-total skin irradiation.



**Figure 1.** Patient 1, the skin of the left hand in the course of mycosis fungoides before allogeneic stem cell transplantation (alloHSCT). (A) Clinical image of skin lesions: numerous juicy red indurated areas covering >80% of the body surface with a tendency to create crusts can be seen. (B) Dermoscopy: yellow and white scale on juicy red and salmon background is evident. What is more, numerous dotted vessels in unspecific distribution can be seen.



**Figure 2.** Day +696 after alloHSCT. (A) Clinical image: Full healing of lesions in the course of MF. (B) Dermoscopy: on skin-colored background multiple light brown lines are distributed in unspecific arrangement, creating light brown discolorations, no scale.

Dermoscopy in the setting of alloHSCT may help to differentiate between a variety of skin conditions after the procedure, including relapse of the primary disease, cutaneous graft versus host disease, drug-induced rashes, infectious skin disorders, and secondary cutaneous neoplasms. Dermoscopy is an auxiliary tool in the differentiation of inflammatory disorders and MF based on the vessels' morphology and their distribution, color of the background, color and distribution of the scales [2].

Dermoscopic features of MF described in the literature include short linear and dotted vessels [3,4,5,6] and spermatozoa-like vascular structures [3,4,5].

In our cohort, both dotted and linear vessels were noted, and they were indicative of an active disease process.

Background color in MF is red, yellow-orange [5] or a mix of the two colors [2]. The primary red or orange background color, changing to skin-colored or light brown in the case of healing of the lesions was also noted in our patients.

The presence of scale seems to be not specific in the dermoscopy of mycosis fungoides. The large variation in descriptions of its presence and distribution [2,4,6] may be due to the use of a dermoscope with non-polarized light requiring immersion vs. polarized light, where scale is more easily visualized [2]. In our group, scaling was reported in active lesions.

Other noted structures such as white diffuse structureless areas, brown lines and globules were present irrespective of disease status.

## Conclusion

Our report adds to the information about the dermoscopic characteristics of MF lesions and their evolution. Observations in the case of disease remission included a change of the background color from initial red-orange to skin-colored or light brown and the disappearance of numerous dotted and linear vessels, while the persistence of vessels was indicative of progressive disease.

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