Case Report

Palmoplantar Pustulosis-Like Large-Cell Transformation of Mycosis Fungoides: A Diagnostic Pitfall

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Abstract

Palmoplantar pustular lesions in patients with mycosis fungoides (MF) may represent large cell transformation (LCT) rather than inflammatory dermatoses such as palmoplantar pustulosis or pustular psoriasis. We report a 74-year-old woman with a history of MF who presented with pustular lesions on her palms and soles for six months. Histopathological examination confirmed LCT of MF, and she was treated with brentuximab vedotin. This case underscores the importance of biopsy for atypical palmoplantar eruptions in patients with MF, as delayed recognition may postpone treatment for aggressive disease.

Keywords: Brentuximab vedotin, diagnosis, palmoplantar pustulosis, mycosis fungoides, large cell transformation

Introduction

Large cell transformation (LCT) in mycosis fungoides (MF) is an aggressive histopathological variant characterized by the presence of large atypical lymphoid cells (> 4x the size of a small lymphocyte) that comprise > 25% of the infiltrate or form microscopic nodules.[1] Transformed MF typically presents with ulcerating tumours, rapidly enlarging plaques, or clinically enlarged lymph nodes.[2] Pustular presentations of MF are uncommon and may clinically mimic inflammatory dermatoses such as palmoplantar pustulosis or pustular psoriasis.[3] Recent evidence suggests that pustular MF may be associated with advanced-stage disease an increased risk of large-cell transformation, and poorer outcomes.[4] Our case illustrates an unusual clinical presentation of LCT.

Case Report

A 74-year-old woman with no significant comorbidities and no regular medications, presented to our clinic with progressive cutaneous lesions and severe pruritus. Nine years prior to presentation, the patient developed papulopustular scalp lesions that caused alopecia; however, she remained undiagnosed for five years, until she was diagnosed with MF at an external centre. Narrowband UVB phototherapy was initiated, resulting in partial clinical improvement. At presentation to our clinic, infiltrated plaques involving the eyebrows, chin, and lower extremities were observed, collectively affecting > 10% of the body surface area and manifesting as patch and plaque lesions (Figure 1). In addition, bilateral palmar and plantar pustular lesions had been present for six months, some of which were crusted, while others showed active pustule formation (Figure 2). Multiple skin biopsies were obtained from the bilateral medial eyebrows, the chin, the right pretibial plaque lesions, and the palmar pustular lesions. Microscopic examination and cultures ruled out infectious organisms. Histopathological examination of all specimens demonstrated LCT, with large atypical lymphocytes comprising more than 25% of the lymphoid infiltrate. Palmar histology revealed broad subcorneal and intraepidermal pustular areas containing predominantly polymorphonuclear leukocytes, with occasional atypical lymphoid cells. Large, pleomorphic,

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atypical lymphoid cells with prominent nucleoli infiltrated the epidermis and the superficial dermis. Immunohistochemical analysis demonstrated CD3 and CD4 positivity in epidermal and dermal neoplastic lymphoid cells, whereas CD7 and CD8 were expressed in less than 10% of the infiltrate. CD30 was expressed in approximately 20% of the large atypical lymphoid cells, and the Ki-67 proliferation index was approximately 65% (Figure 3A-C). Positron emission tomography-computed tomography revealed multiple lymphadenopathies involving the bilateral axillary, external iliac, and inguinal regions which demonstrated mild to moderate fluorodeoxyglucose uptake (SUV_{max}: 1.5–2.3). Excisional biopsy of a right axillary lymph node showed MF infiltration, while the overall lymph node architecture was preserved (LN3). A peripheral blood smear was normal, and laboratory investigations revealed elevated beta-2 microglobulin levels (3537 µg/L; reference range = 800–2400 µg/L), leucocytosis with neutrophilia (14.52 × 10^3/µL and 11.48 × 10^3/µL, respectively), and markedly elevated total IgE levels (3356 IU/mL; reference range ≤ 100 IU/mL). Based on the clinical, histopathological, and radiological findings, the patient was staged as IIA (T2N2M0) according to the National Comprehensive Cancer Network Clinical Practice Guidelines for Cutaneous Lymphomas.[5] The peripheral blood smear showed no atypical (Sézary) cells, and peripheral blood flow cytometry demonstrated CD3: 50%, CD4: 31%, CD8: 14%, and a CD4/CD8 ratio of 2.2. As absolute CD4+ CD7- or CD4+ CD26- T cell counts were not available, a definitive B0 versus B1 subclassification was not assigned. Following a multidisciplinary evaluation, brentuximab vedotin was initiated at a dose of 82 mg every 21 days. Clinical regression of the palmoplantar pustules was evident after the third cycle (Figure 4). The patient has received 10 cycles to date and has been followed for 8 months, with sustained clinical improvement. Written informed consent was obtained from the patient.



Figure 1. Bilateral infiltrated plaques on medial eyebrows and patches on thighs and legs



Figure 2. (A) Bilateral pustular lesions involving the palmar surfaces. (B) Crusted pustule formation observed with marked desquamation on soles

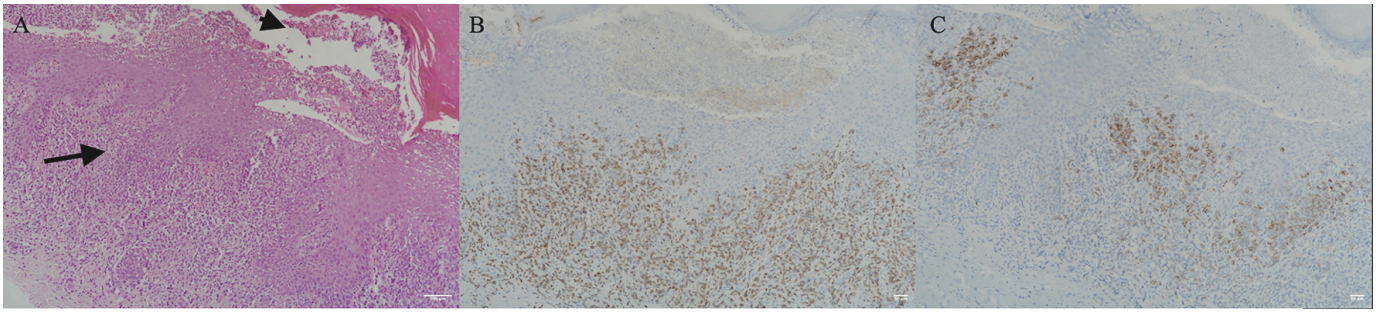


Figure 3. (A) Intraepidermal pustule formation involving the subcorneal and intraepidermal compartments (arrowhead), infiltration of large, atypical lymphocytes on reticular and papillary dermis (arrow) H&E x40, (B) CD4+ lymphocyte clustering was observed in the epidermis and superficial dermis x100. (C) Focal CD30+ on superficial dermis x100
H&E: Hematoxylin and eosin



Figure 4. Regression of the pustule formation on the palms after 3 cycles of brentuximab vedotin

Discussion

When LCT of MF occurs, overall survival decreases dramatically, particularly in patients with multifocal cutaneous and nodal involvement. Median OS decreases from 4.6 years in unifocal cutaneous disease to 2.5 years in multifocal cutaneous disease and to 1.1 years in extracutaneous involvement.[6] In the presented case, extensive multifocal cutaneous involvement affected more than 10% of the body surface area. In our patient, clinical improvement was observed despite focal CD30 expression. This finding suggests that low-level CD30 expression may not preclude a clinical response to brentuximab vedotin.[7]

Conclusion

Palmoplantar pustular lesions in patients with MF may clinically mimic inflammatory dermatoses such as pustular psoriasis or palmoplantar pustulosis, pustular MF has been described, and LCT is not uncommon within this subgroup.[4] The distinctive feature of the present case is the palmoplantar pustulosis-like clinical presentation with histologically confirmed LCT in the pustular lesions, which emphasizes that newly developed atypical palmoplantar pustules in a patient with MF may represent transformation rather than a concomitant inflammatory dermatosis. Furthermore, the initial scalp presentation can easily be misdiagnosed as folliculitis, erosive pustular dermatosis of the scalp, or folliculitis decalvans. Awareness of these unusual manifestations may facilitate earlier diagnosis and timely management of this aggressive MF variant.

Footnotes

Informed Consent: Written informed consent was obtained from the patient.

Authorship Contributions

Surgical and Medical Practices: Ç.Y., N.D., T.A., İ.E.S., Concept: Ç.Y., İ.E.S., Design: Ç.Y., T.A., Data Collection or Processing: Ç.Y., Analysis or Interpretation: T.A., Literature Search: Ç.Y., İ.E.S., Writing: Ç.Y., N.D., İ.E.S.

Conflict of Interest: The authors declared that they have no conflict of interest.

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References

1. Salhany KE, Cousar JB, Greer JP, Casey TT, Fields JP, Collins RD. Transformation of cutaneous T cell lymphoma to large cell lymphoma. A clinicopathologic and immunologic study. Am J Pathol. 1988;132(2):265-277.
2. Talpur R, Sui D, Gangar P, Dabaja BS, Duvic M. Retrospective analysis of prognostic factors in 187 cases of transformed mycosis fungoides. Clin Lymphoma Myeloma Leuk. 2016;16(1):49-56.
3. Hignett E, Seminario-Vidal L, Shulman K, Sami N. Cutaneous T-cell lymphoma mimicking palmoplantar pustular psoriasis: a rare variant. Australas J Dermatol. 2021;62(2):e280-e282.
4. Bontoux C, Badrignans M, Afach S, Sbidian E, Mboumba DL, Ingen-Housz-Oro S, Claudel A, Aubriot-Lorton MH, Chong-Si-Tsaon A, Le Masson G, Attencourt C, Dubois R, Beltzung F, Koubaa W, Beltraminelli H, Cardot-Leccia N, Balme B, Nguyen AT, Bagny K, Legoupil D, Moustaghfir I, Denamps J, Mortier L, Hammami-Ghorbel H, Skrek S, Rafaa M, Fougerousse AC, Deschamps T, Dalle S, D'incan M, Chaby G, Beylot-Barry M, Dalac S, Ortonne N. Pustular mycosis fungoides has a poor outcome: a multicentric clinicopathological and molecular case series. Br J Dermatol. 2024;192(1):125-134.
5. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Cutaneous Lymphomas. Version 1.2026. Published December 9, 2025. Accessed May 4, 2026. Available from: https://www.nccn.org
6. Johnstone P, Higgins M, Prince HM, Lade S, McCormack C, van der Weyden C, Bhabha F, Buelens O, Blombery P, Campbell BA. Large-cell transformation of mycosis fungoides: patterns of care and patient outcomes. Br J Haematol. 2025;207(3):824-833.
7. Blazejak C, Oymanns M, Stranzenbach R, Hillen U, Mitteldorf C, Nicolay JP, Wobser M, Schrüfer P, Gosmann J, Wehkamp U, Booken N, Kreuter A, Dippel E, Klemke CD, Weyermann M, Stadler R, Assaf C. Brentuximab vedotin in advanced-stage mycosis fungoides/sézary syndrome with low CD30 expression: real-world data from the German cutaneous lymphoma network. Cancers (Basel). 2025;18(1):97.