




Acquisition of *TP63* Rearrangement in Large Cell Transformation of Mycosis Fungoides

Karen A. Nahmod¹  | Guilin Tang¹ | Shaoying Li¹  | Carlos Torres-Cabala² | Jie Xu¹ 

¹Department of Hematopathology, The University of Texas MD Anderson Cancer Center, Houston, Texas, USA

²Department of Pathology, Dermatopathology Section, The University of Texas MD Anderson Cancer Center, Houston, Texas, USA

Correspondence

Jie Xu, Department of Hematopathology, The University of Texas MD Anderson Cancer Center, 1515 Holcombe Blvd., Unit 0072, Houston, TX 77030, USA.

Email: jxu9@mdanderson.org

KEYWORDS

lymphoma, Mycosis Fungoides, *TP63* rearrangement

A 58-year-old woman with a 20-year history of alopecia presented with an enlarging mass in her left ear canal. Physical examination

revealed facial rash and erythematous scaly scalp with hair loss. Skin biopsies of the face and scalp showed folliculotropic myco-

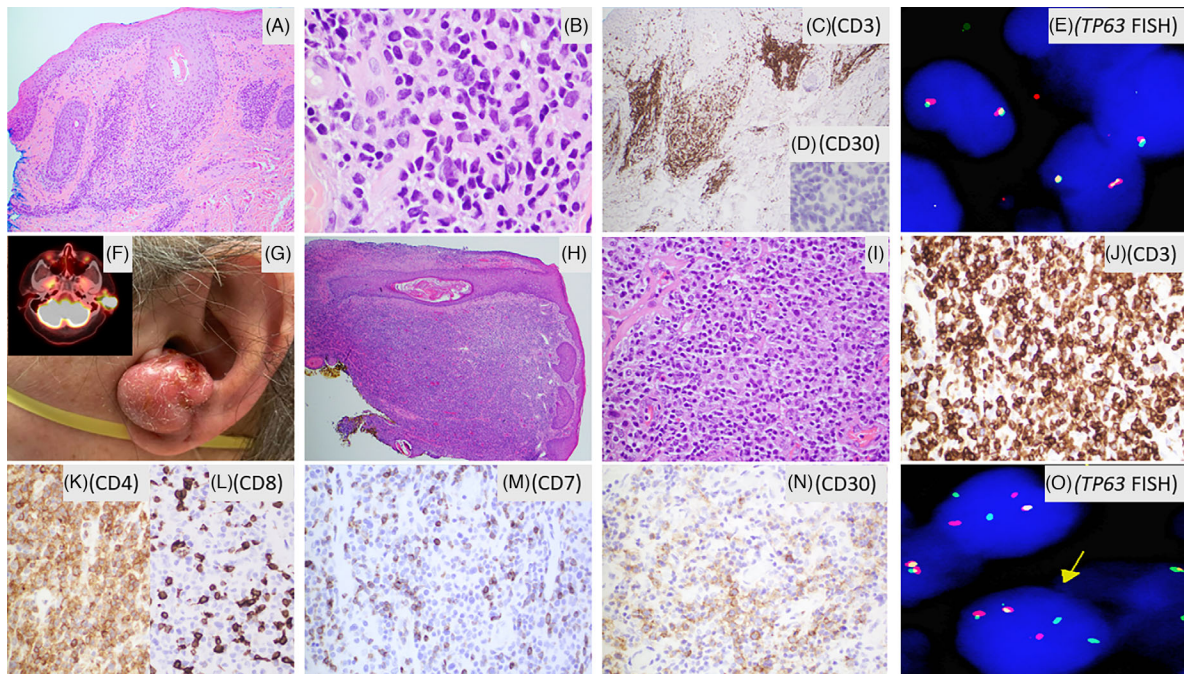


FIGURE 1 (A–E) Biopsy of facial rash shows folliculotropic mycosis fungoides (MF) (A, 40x; B, 400x). The neoplastic lymphocytes are positive for CD3 (C, 40x), and negative for CD30 (D, 400x). They are negative for *TP63* rearrangement by fluorescence in situ hybridization (FISH) (E, 600x). (F–O) Biopsy of the ear canal mass reveals MF with large cell transformation (H, 40x; I, 400x). The lymphoma cells are positive for CD3 (J, 400x), CD4 (K, 400x), CD30 (30%–40%) (N, 400x), and negative for CD8 (L, 400x) and CD7 (M, 400x). They are positive for *TP63* rearrangement by FISH (O, 600x).

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2024 The Authors. *eJHaem* published by British Society for Haematology and John Wiley & Sons Ltd.

sis fungoides (MF) (Figure 1A, 40x and Figure 1B 400x), positive for CD3 (Figure 1C, 40x) and CD4, and negative for CD7, CD8, and CD30 (Figure 1D, 400x). Biopsy of the ear canal mass (Figure 1F,G) revealed lymphoma cells diffusely involving the dermis, with minimal epidermotropism and folliculotropism (Figure 1H, 40x). The infiltrate was composed of predominantly small-sized cells, admixed with increased large cells (Figure 1I, 400x). Immunohistochemical stains showed that the lymphoma cells were positive for CD2, CD3 (Figure 1J, 400x), CD4 (Figure 1K, 400x), CD5, and CD30 (30%–40%) (Figure 1N, 400x), and were negative for CD8 (Figure 1L, 400x) and CD7 (Figure 1M, 400x), consistent with MF with large cell transformation, tumor stage. The tumor cells were positive for *TP63* rearrangement (using *TP63* dual-color breakapart probes) and negative for *DUSP22* rearrangement by fluorescence in situ hybridization (Figure 1O, 600x). Interestingly, MF cells in the biopsy taken from the facial rash were negative for *TP63* rearrangement (Figure 1E, 600x). Her ear canal tumor failed local radiotherapy but did respond to subsequent Brentuximab Vedotin and achieved complete remission.

TP63 rearrangement is reported in 2%–8% of systemic anaplastic lymphoma kinase-negative anaplastic large cell lymphoma and is associated with poorer prognosis but is rare in cutaneous T-cell lymphomas. This case suggests that the acquisition of *TP63* rearrangement may be a phenomenon associated with large cell transformation/tumor stage MF.

AUTHOR CONTRIBUTIONS

Karen A. Nahmod and Jie Xu wrote the manuscript. Guilin Tang helped with the fluorescence in situ hybridization analysis. Shaoying Li and Carlos Torres-Cabala revised the manuscript.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

FUNDING INFORMATION

No funding was required for this study.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

The authors have confirmed ethical approval statement is not needed for this submission.

PATIENT CONSENT STATEMENT

Informed consent was obtained from the patient (“front-door” consent).

CLINICAL TRIAL REGISTRATION

The authors have confirmed clinical trial registration is not needed for this submission.

ORCID

Karen A. Nahmod  <https://orcid.org/0000-0002-5480-7171>

Shaoying Li  <https://orcid.org/0000-0002-6857-0523>

Jie Xu  <https://orcid.org/0000-0002-1897-1644>

How to cite this article: Nahmod KA, Tang G, Li S, Torres-Cabala C, Xu J. Acquisition of *TP63* Rearrangement in Large Cell Transformation of Mycosis Fungoides. *eJHaem*. 2024;5:264–65. <https://doi.org/10.1002/jha2.851>