NOVEL USE OF TAGROXOFUSP-ERZS/ELZONRIS IN CD123-POSITIVE GAMMA/DELTA CUTANEOUS T-CELL LYMPHOMA

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INTRODUCTION

Primary cutaneous gamma/delta T-cell lymphoma (PCGDTCL) is a rare, aggressive subtype of cutaneous T-cell lymphoma, representing only about 1% of cases. It typically presents with rapidly progressive plaques and ulceronecrotic nodules, and carries a poor prognosis with a median survival of ~15 months. Treatment is challenging given the rarity of the disease and a high refractory rate. In CD30-positive cutaneous T-cell lymphomas, Brentuximab Vedotin (BV-CHP) is a guideline-supported first-line therapy.

AIM

To report a highly aggressive case of PCGDTCL in a 54-year-old man found to have strong CD123 positivity after progression on first-line treatment, and to describe treatment with tagraxofusp-erzs (Elzonris) — to our knowledge, the first reported use of Elzonris in PCGDTCL.

CASE PRESENTATION

A 54-year-old man with systemic lupus erythematosus and rheumatoid arthritis presented with ulcerating discoid lesions of the arms, abdomen, groin, and thighs, with scarring and rapidly progressing vitiligo. Skin biopsy showed a CD30+ lymphoproliferative disorder; hematologic workup confirmed γ/δ T-cell lymphoma. He received BV-CHP elsewhere with an unclear response and was lost to follow-up, then presented to us a year later with worsening lesions. Given his frailty, brentuximab vedotin monotherapy was started with a good initial response, but disease progressed after about a year. One cycle of romidepsin was stopped for poor tolerability. Repeat biopsy revealed a CD3+ T-cell infiltrate with an increased CD4:CD8 ratio, loss of CD7, retained CD5, and unexpected strong CD123 positivity in background plasmacytoid dendritic cells — prompting initiation of CD123-targeted therapy with tagraxofusp-erzs (Elzonris).

CONCLUSIONS

CD123 positivity is exceptionally rare in PCGDTCL and is not a standard diagnostic marker for this entity. This case underscores the diagnostic and therapeutic relevance of identifying uncommon immunophenotypic markers such as CD123 in rare lymphomas. It also highlights the potential role of targeted therapies in refractory PCGDTCL. Further investigation is warranted to determine the clinical significance of CD123 expression and evaluate the efficacy of CD123-directed treatments in this aggressive malignancy.

CLINICAL TIMELINE

Diagnosis: Skin punch biopsy showed a CD30+ lymphoproliferative disorder; workup confirmed primary cutaneous γ/δ T-cell lymphoma.

1st line: Brentuximab vedotin + CHP (BV-CHP) given elsewhere — unclear response, patient lost to follow-up.

Relapse (1 yr): Brentuximab vedotin monotherapy started — good initial response.

Progression: Skin disease worsened after ~1 year on BV monotherapy.

Romidepsin: One cycle given, stopped for poor tolerability.

Re-biopsy: CD3+, increased CD4:CD8 ratio, loss of CD7, retained CD5, and strong CD123 positivity in background plasmacytoid dendritic cells.

Targeted therapy: Tagraxofusp-erzs (Elzonris) initiated based on rare CD123 positivity.

Response: Two cycles completed with initial Rapid improvement of skin lesions.

Setback: Cycle 3 delayed by bacteremia and worsening skin lesions.

Outcome: Given overall disease progression and clinical frailty, care was transitioned to hospice.

KEY IMMUNOPHENOTYPE

CD3: Positive

CD4:CD8 ratio: Increased

CD7: Lost

CD5: Retained

CD30: Positive (initial biopsy)

CD123: **Strongly positive — background pDCs**

Clinical Photographs of patient's back and chest before and after treatment

Figure 1. Clinical photographs of the patient's back (A) and chest (B)

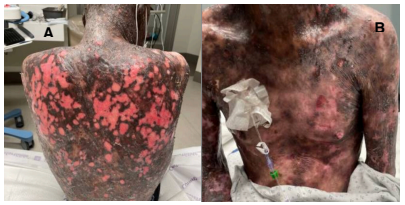
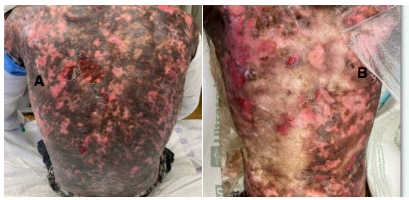


Figure 2. Clinical photographs of the patient's back (A) and chest (B) after



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REFERENCES

1. Willemze R, et al. Subcutaneous panniculitis-like T-cell lymphoma: definition, classification, and prognostic factors. Blood. 2008;111(2):838-45.
2. Toro JR, et al. Gamma-delta T-cell phenotype is associated with significantly decreased survival in cutaneous T-cell lymphoma. Blood. 2003;101(9):3407-12.
3. Guitart J, et al. Cutaneous gammadelta T-cell lymphomas: a spectrum of presentations. Am J Surg Pathol. 2012;36(11):1656-65.
4. Kamijo H, et al. Primary cutaneous gammadelta T-cell lymphoma with unusual immunophenotype. J Dermatol. 2020;47(3):300-5.
5. Glatzel C, et al. Brentuximab vedotin as monotherapy or combination therapy for cutaneous peripheral T-cell lymphoma. J Dtsch Dermatol Ges. 2025;23(11):1424-8.
6. Horwitz S, et al. Brentuximab vedotin with chemotherapy for CD30-positive peripheral T-cell lymphoma (ECHELON-2). Lancet. 2019;393(10168):229-40.
7. Adimora IJ, Wilson NR, Pemmaraju N. Blastic plasmacytoid dendritic cell neoplasm (BPDCN). Cancer. 2022;128(16):3019-26.
8. Cai T, et al. Targeting CD123 in BPDCN using allogeneic anti-CD123 CAR T cells. Nat Commun. 2022;13(1):2228.

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