CASE REPORT

Primary cutaneous anaplastic large cell lymphoma in a 73-year-old Filipino male

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ABSTRACT

Introduction: Primary cutaneous anaplastic large cell lymphoma (PCALCL) is an uncommonly encountered subtype of cutaneous lymphoma under the classification of CD30-positive lymphoproliferative disorders which presents histologically as large atypical lymphocytes with pleomorphic and anaplastic cytology that localizes to the dermis. Although recurrent, PCALCL usually carries a good prognosis, with 5-year survival rates ranging from 85% to 95%.

Case Summary: We report a 73-year-old elderly male who consulted at our out-patient department with a 3-year and 6-month history of multifocal, gradually enlarging, erythematous nodules with dry, necrotic areas on the scalp, right auricular area, left axillary area, right forearm, and right thigh, accompanied by loss of appetite and nontender cervical, left axillary, and right inguinal lymphadenopathy. Previous skin punch biopsy and immunohistochemical stain done by the patient's preceding dermatologist was signed out as "suggestive" of pseudolymphoma. However, management with intralesional corticosteroid injections provided no improvement. Skin punch biopsy done at our institution revealed ALK negative (-) anaplastic large cell lymphoma. Patient was then referred to an oncologist, however, the patient was lost to follow-up and succumbed to community acquired pneumonia.

Conclusion: This case highlights the importance of a thorough diagnostic assessment as recent studies indicate a poorer prognosis of ALK (-) cases, with overall 5-year survival rates consistently below 50%.

Keywords: *lymphoma, ALCL, CD30, cutaneous anaplastic large cell lymphoma*

INTRODUCTION

Cutaneous Anaplastic Large Cell Lymphoma (CALCL) is a subtype of cutaneous lymphomas usually cited as having excellent overall survival rates.[1] Part of the diagnostic evaluation is the identification of the immunohistochemical marker, Anaplastic Lymphoma Kinase (ALK). The ALK gene encodes for this receptor tyrosine kinase, part of the insulin receptor superfamily.[2] The lack of expression of which significantly impacts prognosis.

CASE REPORT

A 73-year-old male consulted at our institution for a third opinion regarding a 3-year and 6-month history of multifocal, gradually enlarging, erythematous nodules with dry, necrotic areas on the scalp, right auricular area (Fig. 1a), left axillary area (Fig. 1b), right forearm (Fig 1c), and right thigh (Fig. 1d), accompanied by loss of appetite and nontender cervical, left axillary, and right inguinal lymphadenopathy.

The patient was previously seen by a dermatologist and underwent skin punch biopsy and immunohistochemical staining, the result of which was signed out as "Chronic

Reactive Proliferation". Patient sought a second opinion with a different dermatologist and underwent a second biopsy whose results were signed out as being "suggestive of pseudolymphoma". The patient was then managed with intralesional corticosteroid injections at an unrecalled dosage every 2 weeks for 6 months, which consequently provided no improvement.

A 4-mm skin punch biopsy was done at our institution and stained with H&E, revealing large, pleomorphic, anaplastic cells possessing large, irregularly shaped nuclei, dispersed chromatin, and abundant pale, eosinophilic cytoplasm (Fig. 2a).

Immunohistochemical staining showed majority (approximately 90%) of the cells stained with CD3 (Fig. 2b), less than 10% stained with CD20 (Fig. 2c), and CD30 stained a majority of the cells (Fig. 2d). Fluorescence in situ

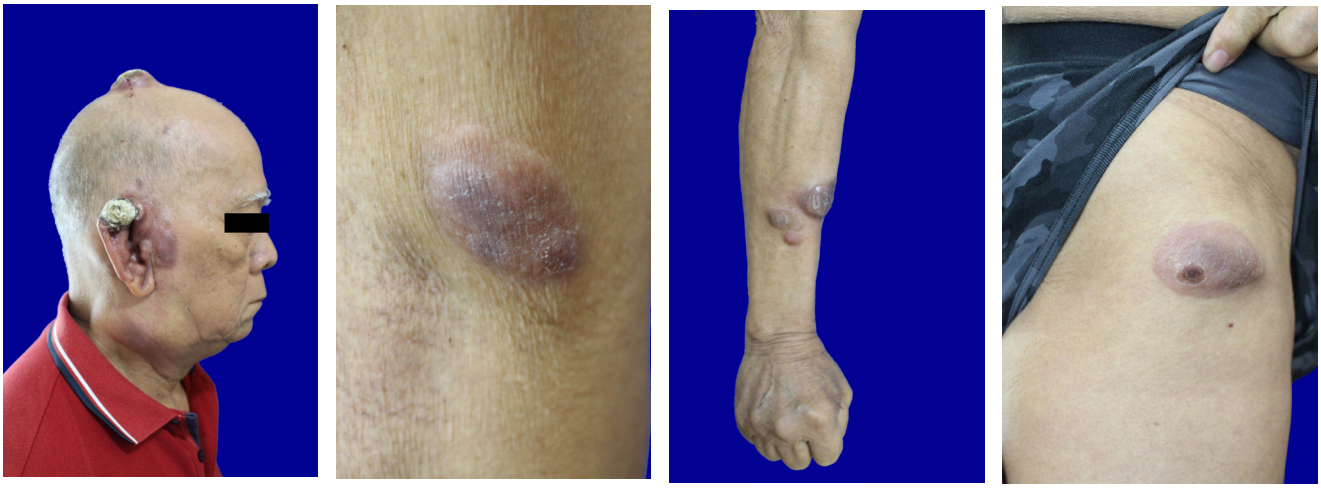

Figure 1. Multiple nodules on the (a) scalp, right auricular area, (b) left axillary area, (c) right forearm, (d) right thigh.

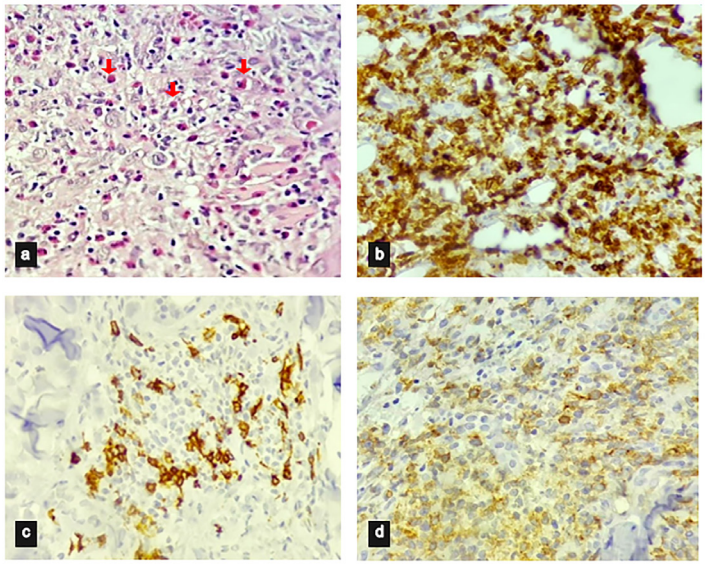

Figure 2. (a) Large, anaplastic cells with eosinophilic cytoplasm (H&E stain, x 400). (b) CD3 stained 90% of lymphocytes , x 400). (c) CD20 stain of less than 10% of the cells (x 400) and (d) CD30 stain approximately 90% of cells (x 400).

hybridization (FISH) analysis was done at the St. John's Institute of Dermatology at St. Thomas Hospital, which then revealed the patient to be Anaplastic Lymphoma Kinase negative (ALK (-)). These results are consistent with ALK(-) ALCL.

The patient was then lost to follow up and reported by his family to have succumbed to community acquired pneumonia.

DISCUSSION

Cutaneous Anaplastic Large Cell Lymphoma (CALCL) is an infrequently encountered subtype of cutaneous lymphoma classified under primary cutaneous CD30-positive lymphoproliferative disorders, existing on a spectrum along with lymphomatoid papulosis. CALCL usually manifests in older males, with a male to female predominance of 2-3:1, presenting as solitary to multifocal, erythematous papules and nodules that develop ulceration. Spontaneous regression with subsequent relapse is generally expected in the course of the disease.[1]

Histopathologic examination of CALCL shows large, anaplastic cells in sheets behind an inflammatory background in the dermis. Immunohistochemistry is essential for classification in order to identify expression of the CD30 antigen in at least 75% of the malignant cells.[1,4]

The ideal treatment for ALCL has not been well established due to the relatively few cases available. Management of localized CALCL without systemic involvement is surgical excision with or without radiotherapy, or low dose methotrexate. Some cases of limited disease responding favorably with radiotherapy alone.[3] NCCN guidelines Ver 4.2014 for CALCL with ALK(-) histology recommends chemotherapy including CHOP (cyclophosphamide, doxorubicin, vincristine, prednisolone) chemotherapy as a primary component.

Although recurrent, ALCL is generally thought to carry a good prognosis. However, the expression, or lack thereof, of ALK has been noted to be a significant prognostic factor. Whereas ALK(+) ALCL have 5-year survival rates between 70-86%, ALK(-) cases have much worse 5-year survival rates of 30-49%.5 ALK(-) cases are also less responsive to CHOP based chemotherapy as compared to the ALK(+) counterpart. [2]

In a study by Uzuncakmak et al, a 64-year-old female with ALK(-) ALCL with no systemic involvement was managed with local radiotherapy and surgical excision for the large and small nodules, respectively. Lesions were reported to regress after 10 sessions of radiotherapy and no recurrence was noted in the one-year consult following the end of treatment.[6]

CONCLUSION

Primary Cutaneous ALCL is generally known to be benign and even spontaneously resolving in some cases. However, our patient succumbed to Community Acquired Pneumonia in less than five years from the onset of the initial lesion and in less than a year from diagnosis. This case highlights the need for thorough diagnostic examinations even in patients where the prognosis is thought to be excellent. Testing for anaplastic lymphoma kinase proves to be significant as it changes the expected prognosis of the patient.

REFERENCE

1. Willemze R, Jaffe ES, Burg G, Cerroni L, Berti E, Swerdlow SH, et al. WHO-EORTC classification for cutaneous lymphomas. Blood. 2005;105:3768-85.
2. Webb, T. R., Slavish, J., George, R. E., Look, A. T., et al. Anaplastic lymphoma kinase: role in cancer pathogenesis and small-molecule inhibitor development for therapy. Expert Rev Anticancer Ther. 2009;9(3)331–356. http://doi.org/10.1586/14737140.9.3.331
3. Hapgood G, Pickles T, et al. Outcome of primary cutaneous anaplastic large cell lymphoma: a 20-year British Columbia Cancer Agency experience. Br J Haematol. 2016;176.10.1111/bjh.14404
4. Rubio-Gonzales B, Zain J, Rosen ST, Querfeld C. Clinical manifestations and pathogenesis of cutaneous lymphomas: current status and future directions. Br J Haematol. 2017;176,16-36.
5. Ferreri A, Govi S, Pileri S, Savage K. Anaplastic large cell lymphoma, ALK-negative. Crit Rev Oncol Hematol. 2013;206-215
6. Uzuncakmak TK, Akdeniz N, Karadag AS, Taskin S, Zemheri EI, Argenziano G. Primary cutaneous CD 30 (+) ALK (-) anaplastic large cell lymphoma with dermoscopic findings: a case report. Dermatol Pract Concept. 2017;7(1):12