CASE REPORT

Primary cutaneous anaplastic large-cell lymphoma with metastases in an 81-year-old Filipino female

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Introduction: Primary Cutaneous Anaplastic Large Cell Lymphoma (PC-ALCL) is a rare Non-Hodgkin lymphoma (NHL) representing approximately 9% of all cutaneous lymphomas.[3] It usually manifests as a slow-growing, solitary tumor which has a tendency to regress spontaneously. However, metastasis is reported in 5-10% of cases.[2]

Case Summary: Our case is an 81-year-old female with a four-month history of an enlarging nodule on the left upper back. The initial impression was a malignant cutaneous tumor. Histopathology revealed epidermotropic large atypical lymphocytes and diffuse infiltrates of hyperchromatic, pleomorphic mononuclear cells and lymphocytes. Immunohistochemistry showed CD3+, CD20-, CD30+, epithelial membrane antigen (EMA)- and anaplastic lymphoma kinase (ALK)- consistent with PC-ALCL. Metastatic work-up revealed pulmonary involvement. The patient underwent two cycles of multi-agent chemotherapy with marked improvement. However, patient declined further treatment and expired five months after the diagnosis.

Conclusion: This case emphasizes that although PC-ALCL commonly presents with an indolent course, extracutaneous spread can occur. Prompt treatment with chemotherapy increases survival significantly with a cure rate of 92%.[2]

Keywords: T-cell lymphoma, anaplastic, tumor

INTRODUCTION

Anaplastic large-cell lymphoma (ALCL) is a nun common type of Non-Hodgkin lymphomas representing less than 1% of reported cases in the National Cancer Database.[1] ALCL can present as either: (1) primary disease arising from the skin without systemic involvement, or (2) a systemic disease with a secondary cutaneous lesion. Primary ALCL (PC-ALCL) belongs to the malignant spectrum of CD30+ lymphoproliferative diseases (LPD) along with lymphomatoid papulosis (LYP), which is the benign subtype.[2] PC-ALCL is the second most common cutaneous T-cell lymphoma[2] but accounts for only 9% of all cutaneous lymphoma.[3]

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Source of funding: none
Conflict of interest: none
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It is usually seen in the 6th decade of life manifesting as an indolent solitary tumor or nodule that has a tendency to ulcerate. Forty-four percent of cases were found to show spontaneous, partial regression.[2,4] Histopathology shows diffuse large lymphocytic infiltrates and characteristic anaplastic cells with at least 75% of tumor cells expressing CD30.[4]

PC-ALCL is usually confined to the skin and a rapidly progressive presentation is rare. Multifocal lesions and extracutaneous spread may occurin 20% and 10% of cases, respectively.[4] Localized PC-ALCL has a ten-year survival rate of more than 90%.[2] However, a poor clinical outcome is often in evitable when there is an extensive disease presentation at diagnosis.[3]

CASE REPORT

An 81-year-old Filipino female, who was apparently well with no known history of immunosuppression, presented with a four-month history of an enlarging nodule over the left upper back, initially treated as a case of carbuncle. Local progression of the lesion was observed despite several courses of systemic antibiotics prompting referral to dermatology.

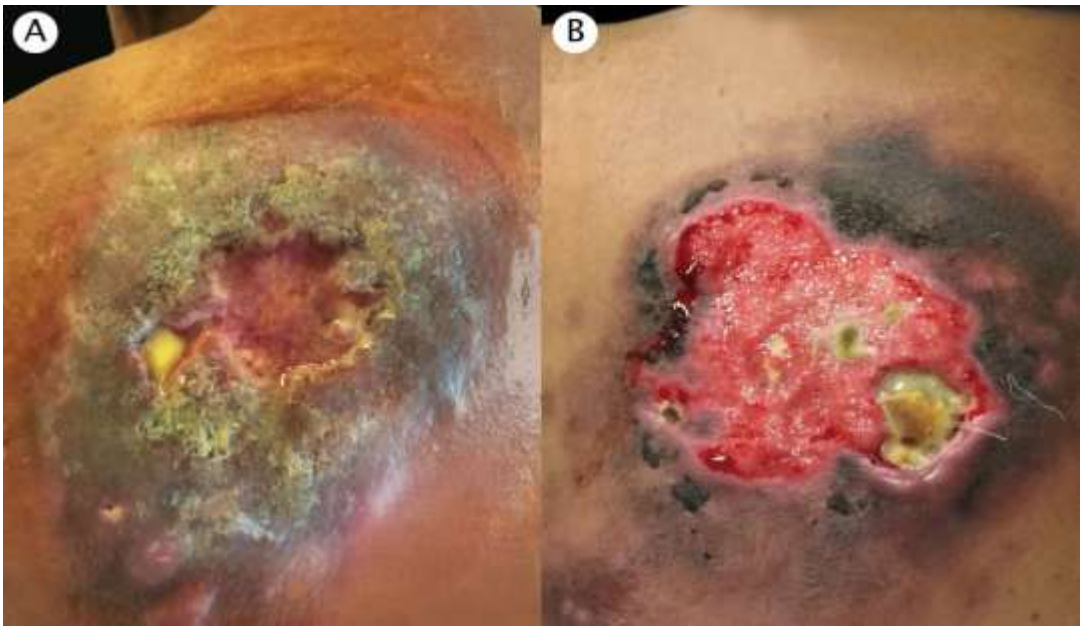


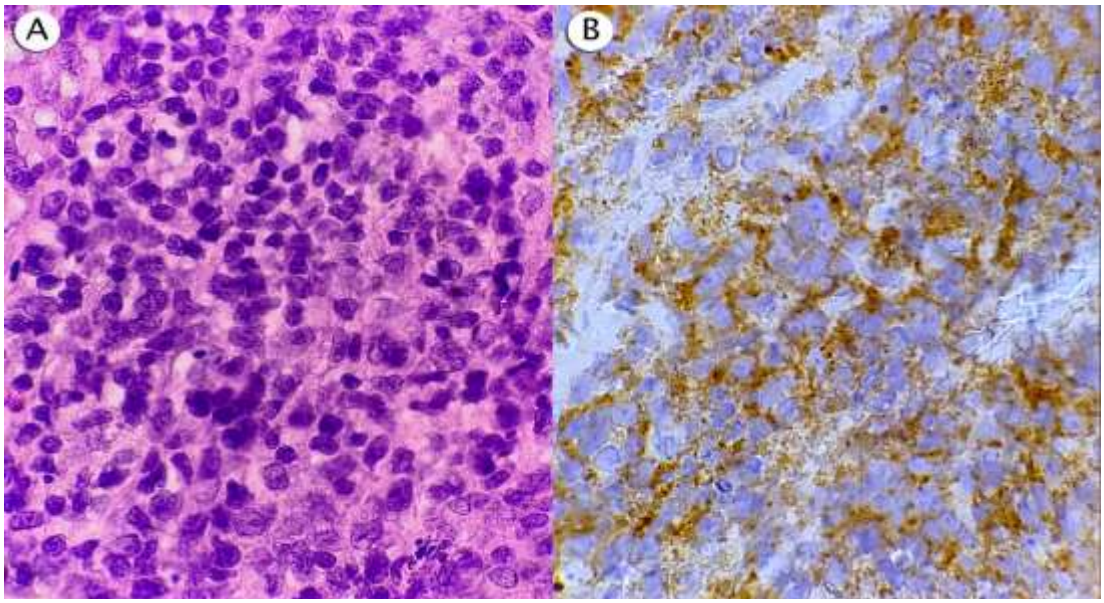
Figure 1.A. During the day of referral, there was involvement of the left upper back showing an ulcerated tumor with draining pus measuring 7x7.5x2 cm. **B.** After two cycles of CHOP, there was a 50% decrease in the tumor thickness and ulcer depth.

Physical examination revealed a solitary erythematous ulcerated and indurated tumor with draining pus over the left upper back, measuring 7 cm x 7.5 cm x 2 cm and bilateral, non-tender, matted cervical lymphadenopathy, measuring 2 x 2 cm (Figure 1.A). Clinical mycology and bacterial culture were negative. Initial dermatologic assessment was cutaneous lymphoma. Histopathology showed large atypical lymphocytes seen singly and in collections within the epidermis. Dense diffuse infiltrates of hyperchromatic pleomorphic mononuclear cells and lymphocytes were seen within the dermis (Figure 2.A). Immunohistochemistry (IHC) revealed CD3+, CD20-, CD30+ (Figure 2.B), CD45RO-, ALK-, EMA-, vimentin+ and cytokeratin- consistent with cutaneous ALCL. Comprehensive staging work-up showed spiculated masses on both lung fields, largest at the anterior segment of the right upper lung field, suggestive of pulmonary metastases (Figure 3.A). On follow-up, new lesions were noted on the left upper extremity (Figure 3.B).The patient was referred to hematology-oncology and was started on cyclophosphamide, vincristine, and prednisone (CHOP regimen excluding doxorubicin due to cardiac morbidity). Marked improvement was noted after two cycles of chemotherapy (Figure 1.B). The patient, however, declined further treatment and expired five months after the diagnosis.

DISCUSSION

PC-ALCL accounts for 9% of all cutaneous lymphomas. It has an excellent prognosis with a 5-year survival rate of 85% to 100%. It is vital to differentiate PC-ALCL from a cutaneous manifestation of systemic ALCL because prognosis varies, with a 5-year survival of 31% for the latter.[3] Systemic ALCL was considered in this case due to its unusual aggressive course. However, secondary cutaneous manifestation of a systemic ALCL usually presents with multiple skin lesions in different parts of the body, quite different from the typical solitary presentation of PC-ALCL as seen in our case. However, PC-ALCL may spread to other parts of the body and rarely metastasizes to other organs such as the lungs. Histopathology favors primary skin involvement because both EMA and ALK are negative, consistent with the known IHC findings of PC-ALCL.[1]This case may be a rare manifestation of PC-ALCL presenting with a rapidly growing aggressive tumor with extracutaneous spread; a presentationwhich occurs in only 10% of the cases.[4] Based on the said clinical and histopathologic findings, systemic ALCL was deemed less likely and extracutaneous PC-ALCL was favored.

Currently, consensus recommendation for treatment of CD30+ PC-ALCL is individualized based on the size and extent of involvement. Surgical excision or radiotherapy are both first line options for localized disease with 100% and 95% complete remission rates, respectively. Multifocal disease confined to the skin can be treated with single-agent chemotherapy such as methotrexate, etoposide, or gemcitabine.Multi-agent chemotherapy is currently the standard of care for extensive multifocal and



extracutaneous PC-ALCL with a complete response rate of 92%, but with a relapse rate of 62% in 4 months.[2]

CONCLUSION

This case emphasizes the need for a high index of suspicion for chronic skin lesions unresponsive to standard treatment. Prompt diagnosis is critical as appropriate treatment for localized PC-ALCL has a very good prognosis. Underlying systemic lymphoma should be investigated since cutaneous ALCL can arise primarily from the skin or be a secondary cutaneous manifestation from a systemic ALCL which carries a worse prognosis. PC-ALCL may deviate from its usual indolent course and, rarely, may even spread extracutaneously. Vigilant monitoring of disease progression is recommended as treatment is tailored depending on the extent of the disease.

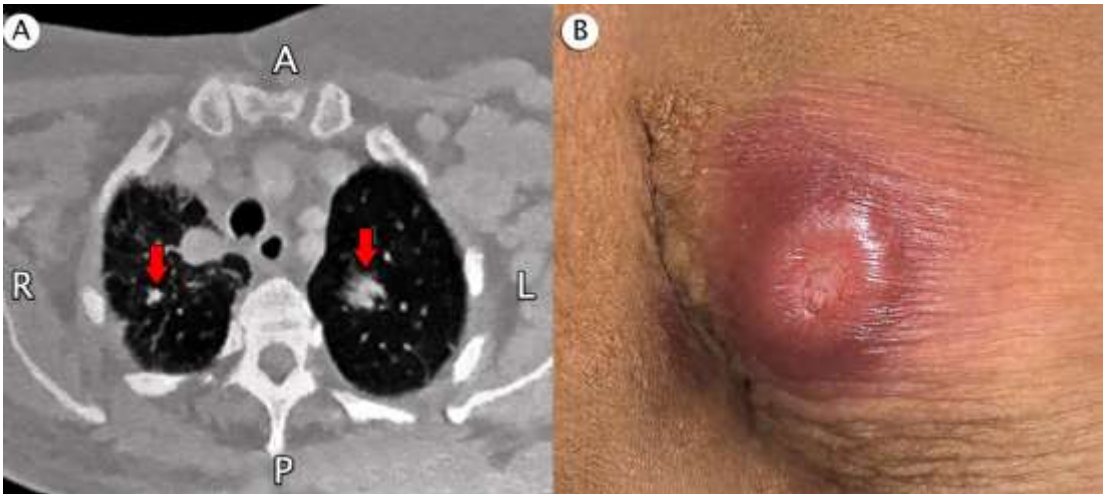


Figure 3.A. Chest CT Scan Showing several spiculated masses on both lung fields (red pointers), suggestive of metastases. Anterior (A), left (L), posterior (P), right (R) of the patient; **B.** Appearance of new erythematous, ulcerated, firm, tender nodule at the left axilla, measuring 1.5cm x 1cm x 1cm seen during the course of treatment.

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