

Systemic anaplastic large cell lymphomas ALK negative revealed by a skin mass

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ABSTRACT

Anaplastic large cell lymphomas (ALCLs) are T-cell lymphomas that express CD30. Clinically, ALCL has 2 presentations: the systemic form and the primary cutaneous form. We report a case of ALK negative systemic anaplastic large cell lymphomas revealed by a skin tumor. Complete staging is mandatory in ALCL especially in cases of abnormal skin manifestation with ALK negative to discriminate a primary cutaneous ALCL from sALCL secondarily involving the skin

Key words: Anaplastic large cell lymphoma; ALK-negative; Extranodal

INTRODUCTION

Anaplastic large cell lymphomas (ALCLs) are T-cell lymphomas that express CD30 [1]. Clinically, ALCL has 2 presentations: the systemic form and the primary cutaneous form [2].

We report a case of ALK negative systemic anaplastic large cell lymphomas revealed by a skin tumor.

CASE REPORT

A 76-year-old male, complained of an asymptomatic erythematous lesion on the fold of the right elbow that has been ongoing for a 6 months ago. The lesion is gradually increasing in size. Five months later the patient reported similar lesions at the periphery of the initial lesion. The patient was in otherwise good health without any significant past medical history.

Dermatological examination revealed a well demarcated tumor, erythematous in color, 5 cms in diameter, hard in consistency with a smooth surface involving the fold of the right elbow (Figs. 1a and 1b). The lesion was adhered to the deep planes. Multiple erythematous

papules, varying in size were noted at the periphery of the lesion described above (Fig. 2).

On dermoscopy, we observed telangiectasias with arborizing vessels (Fig. 3).

Axillary examination showed multiple lenticular right axillary lymph nodes. However the abdomen was soft and no hepatosplenomegaly was noted.

In front of this clinical presentation we thought about many diagnosis such as mycosis fungoides, B lymphoma, sarcoma and skin metastasis.

A skin biopsy was performed and histopathological examination revealed a dense dermal lymphoid infiltrate consisting of large atypical CD30+ T cells (CD45+ CD4+ CD5+ CD30+ CD3- CD8- ALK1-) with an anaplastic morphology and high proliferation rate.

These findings, in correlation with clinical features were suggestive of anaplastic large cell lymphoma (ALCL).

Complete staging was performed to assess systemic disease. Laboratory tests were unremarkable. Lymph

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Figure 1 : (a and b) Well defined tumor, erythematous in color, 5 cms in diameter, with a smooth surface located on the fold of the right elbow.



Figure 2: Multiple erythematous papules, varying in size at the periphery of the tumor.

node ultrasound revealed a malignant lymphadenopathy at the right axillary measuring 5.4 mm of small axis. A biopsy was performed showing a lymph node location of anaplastic large cell lymphoma. Computed tomography scan of the neck, chest, abdomen, and pelvis was normal.

The patient was treated with CHOEP (cyclophosphamide, doxorubicin, vincristine, etoposide and prednisone) regimen to a total of six sessions, which resulted in incomplete clearance of cutaneous (Figs. 4a and 4b) and axillary lymph nodes lesions. No recurrence was noted 12 months later.

DISCUSSION

Anaplastic large cell lymphomas (ALCLs) comprise a heterogeneous group of relatively rare T-cell non-Hodgkin lymphomas that are characterized by CD30 expression [1]. Clinically, ALCL has 2 distinct presentations. The systemic form usually involves lymph nodes with/without extranodal sites and which has a poor prognosis, the primary cutaneous form is restricted to the skin and is characterized by an

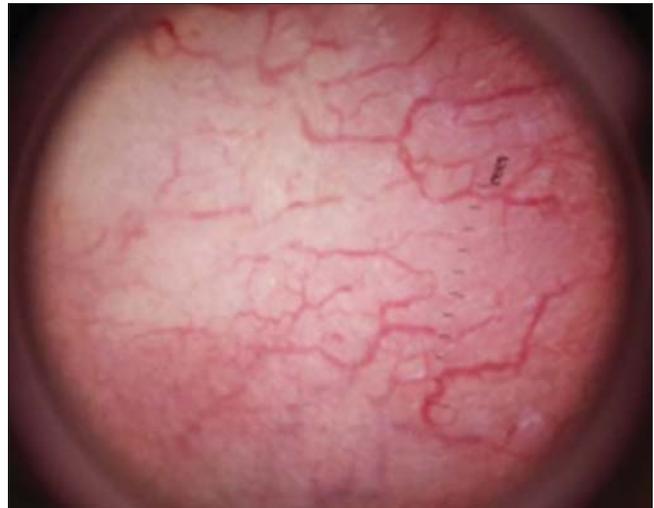


Figure 3: Dermoscopy showing telangiectasias with arborizing vessels.



Figure 4: (a and b) Complete clearance of the cutaneous lesions.

excellent prognosis with a 5-year overall survival (OS) of 90% [2].

Systemic ALCL (sALCL) is further divided into ALK-positive and ALK-negative subtypes, depending on the expression of the anaplastic lymphoma kinase (ALK) fusion protein [3]. ALK positive ALCLs occur predominantly in children and young adults, ALK-negative ALCLs, affect older adults with a median age at diagnosis of approximately 55–60 years. Male predominance (60%) is seen in both ALK+ and ALK- subtypes [4].

However, ALK protein expression, can be helpful for differentiating between systemic (ALK positive in 80% of cases) and primary cutaneous anaplastic large cell lymphoma (ALK negative in 100% of cases) and aid in therapeutic decision [4].

sALCL is primarily a nodal disease, though extranodal involvement is seen in ~20% of cases. The skin, liver, lungs, bone and bone marrow are especially extranodal sites of involvement [4,5]. Skin involvement is not rare,

and often manifests as masses, multiple nodules or nonhealing ulcers [6]. It was important to stage patients with skin lesions to differentiate primary cutaneous ALCL from sALCL secondarily involving the skin [7].

ALCLs are diagnostically challenging for the pathologists, histologically, cells were large and pleomorphic with eccentric horseshoe-shaped nuclei known as “hallmark” cells. These cells typically form sheets of neoplastic cells effacing the nodal architecture, mimicking metastatic involvement from carcinoma [8].

Immunohistochemistry (IHC) is essential in the diagnosis and subclassification of ALCL. In ALCLs all tumour cells are strongly and equally positive for CD30, usually at the cell membrane and in the Golgi region. However, it must be kept in mind that CD30 expression is not specific for ALCL and can be expressed in classical Hodgkin lymphoma, peripheral T-cell lymphoma-not otherwise specified (PTCL-NOS) being the main differential diagnoses [8].

The neoplastic cells in both ALK+ and ALK- sALCL often lack expression of one or more pan-T-cell antigens, including CD3, CD5, CD7, and CD8. CD2 and CD4 are the T-cell antigens most often expressed [9].

Complete staging and work-up for ALCL includes an accurate physical examination, complete haematological and biochemical exams, total-body computerized tomography, and bone marrow aspirate and biopsy [10].

The treatment of choice for systemic ALCL, whether ALK-positive or ALK-negative, is polychemotherapy. Because of the poor prognosis.

Auto-peripheral blood stem cell transplantation is suggested for treatment in patients with complete response to chemotherapy [11].

CONCLUSION

Complete staging is mandatory in ALCL especially in cases of abnormal skin manifestation with ALK negative to discriminate a primary cutaneous ALCL from sALCL secondarily involving the skin and to

make the correct choice of treatment and evaluation of prognosis.

Consent

The examination of the patient was conducted according to the Declaration of Helsinki principles.

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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