## CLINICAL VIGNETTE

# A Cutaneous Conundrum

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***Case***

A 78-year old male presented with 2-weeks of left, distal upper extremity pain and swelling. He has hypothyroidism, hypertension, pulmonary Aspergillosis and bilateral pulmonary emboli on anticoagulation. He had seen his primary care provider 1 month prior and had venipuncture at the left antecubital fossa for his blood tests. There was no other compromise in the skin barrier of this extremity prior to his symptoms, and he confirmed compliance with his anticoagulation.

Prior to presentation, he had just finished three months of voriconazole for Aspergillus. Chest imaging prior to treatment identified a left upper lobe nodule and biopsy ruled out malignancy but showed "dense chronic inflammation and focal necrotic tissue." Follow-up imaging after treatment showed decreasing size of this nodule but the appearance of a new, left upper lobe lesion, measuring 26 x 13 mm.

On exam patient was afebrile with normal vital signs. There was circumferential edema of the distal, left upper extremity with no other significant exam findings. Due to the edema with history of warmth and confluent erythema, the patient was treated for cellulitis with doxycycline. Ultrasound was negative for deep vein thrombosis.

The patient returned 11 days later with no resolution of symptoms. Lymphatic compression by his new pulmonary nodule was then considered. Left axillary ultrasound showed prominent but morphologically normal lymph nodes. Oncology was consulted for further evaluation of the lymph node findings. On initial consultation with Oncology, patient was sent to the emergency department to rule out DVT for concern of failed anticoagulation rather than compression of lymphatics and surrounding vasculature. Emergency evaluation found no DVT or SVT of the extremity. Blood work was notable for a white blood cell count of 2.8 K/μL, a drop from 3.8 K a month prior. His findings were concluded to be from lymphedema, and he was discharged.

Patient followed up with primary care 7 days later with still no resolution and with additional symptoms of decreased appetite and four-pound weight loss since discharge. He was sent back to ED for additional, urgent workup. In the ED he was treated for cellulitis again with broad-spectrum IV antibiotics with mild improvement of symptoms. He was discharged with oral antibiotics.

He saw primary care 6 days after a hospital discharge. His symptoms persisted despite initial response to antibiotic treatment. He also developed new erythematous skin lesions on his thigh. Due to the lack of improvement, persistent leukopenia and recent Aspergillosis, there was high clinical suspicion for invasive Aspergillosis causing the cutaneous symptoms. Dermatology was consulted for skin biopsy, which was performed on one of the thigh lesions.

Pathology was negative for fungal infection but showed anaplastic large cell lymphoma. Oncology initiated chemotherapy and within a month, the symptoms started resolving.

***Discussion***

Anaplastic large cell lymphoma (ALCL) is a subtype of T-cell lymphoma that accounts for ~2% of Non-Hodgkin Lyphomas.[1] ALCL is further categorized by the presence of Anaplastic Lymphoma Kinase (ALK) on immunohistochemistry. This patient had ALK negative ALCL. ALK- ALCL disease is further classified into systemic, primary cutaneous and breast implant associated ALCL.

Systemic ALCL can present with B-symptoms, lymphadenopathy and organomegaly. Our patient likely had systemic disease with cutaneous involvement despite the negative pulmonary nodule biopsy on for his pulmonary Aspergillosis evaluation. Initial skin findings of an erythematous and swollen left upper extremity are not typical for primary cutaneous disease, which often presents as nodular or plaque lesions.[2]

Proper confirmation of the ALCL diagnosis was delayed by symptom suggestive of an infectious process and the apparent improvement after initial antibiotic treatment. His history of pulmonary emboli prompted repeated investigations for clot. Only after repeated failure of cellulitis treatment, multiple negative ultrasounds and emergence of the lesions on his thigh was skin biopsy considered.

This case highlights the need for earlier, aggressive evaluation of skin findings in patients with multiple comorbidities. Despite the rarity of ALCL, this patient demonstrated common complications of malignancy, including opportunistic fungal infection, rapid weight loss and spontaneous pulmonary emboli. While malignancy was seemingly ruled out with pulmonary evalua-

tion, this case to reminds clinicians to keep it in the differential for cutaneous symptoms refractory to treatment.

## REFERENCES


1. **Pina-Oviedo S, Ortiz-Hidalgo C, Carballo-Zarate AA, Zarate-Osorno A**. ALK-Negative Anaplastic Large Cell Lymphoma: Current Concepts and Molecular Pathogenesis of a Heterogeneous Group of Large T-Cell Lymphomas. *Cancers (Basel)*. 2021 Sep 17;13(18):4667. doi: 10.3390/cancers13184667. PMID: 34572893; PMCID: PMC8472588.
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