DERMATOPATHOLOGY

# DIFFUSE LARGE B-CELL LYMPHOMA-LEG TYPE MIMICKING LOWER EXTREMITY CELLULITIS

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Background: 88-year old female presented with bilateral lower extremity edema, erythema,and right leg pain that began four weeks prior to presentation after noting an abrasion on her right ankle. She initially treated this with triple antibiotic ointment which resulted in worsening redness, pain, and swelling. Her primary care doctor subsequently prescribed courses of cephalexin and doxycycline. Due to clinical worsening, she was admitted and was treated with antibiotics for cellulitis. She continued to have right lower leg pain which prompted evaluation with a CT-scan which revealed diffuse skin thickening of the right calf, findings consistent with overlying cellulitis. Infectious disease was concerned given development of papules on the right lower leg which prompted dermatology consultation.

Objective: Examination revealed generalized violaceous erythema with overlying soft purpuric papules on the right lower leg with background brawny hyperpigmentation. Clinical differential diagnoses included septic vasculitis versus atypical mycobacterial infection versus deep fungal infection.A 4mm punch biopsy of a purpuric papule revealed an atypical lymphoid infiltrate within the dermis and subcutaneous adipose tissue in a perivascular and diffuse distribution with medium-sized cells with irregular hyperchromatic nuclei, variably distinct nucleoli, and small amounts of clear to amphophilic cytoplasm. The morphologic differential diagnosis included leukemia cutis, lymphoma, and blastic plasmacytoid dendritic cell neoplasm. Immunohistochemical studies revealed positive staining for CD20, MUM1, BCL2, and BCL6 (focal, weak). c-MYC was variably positive in lymphoma cells, overall greater than 50%. Ki67 showed a variable proliferation index of 40-70%. Diagnosis was consistent with diffuse large B-cell lymphoma-leg type, with BCL2 and MYC expression by immunohistochemistry.

Key Message: Diffuse large B-cell lymphoma should be considered in patients presenting with lower extremity cellulitis without signs of infection, failing antibiotic therapy, in the right clinical setting. MYC and BCL-2 dual expression by immunohistochemistry is associated with worse prognosis.