

## Leukemia Cutis in Acute Myeloid Leukemia with Monocytogenic Differentiation (M5)

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### 1. Clinical Image

A 76-year-old male presented to the emergency department with one year of generalized weakness, 20 lbs weight loss, and physical deconditioning. In the preceding one month he had developed a non-tender and non-pruritic widespread nodular erythematous rash, seen in Figure 1, 2, and 3. He had leukocytosis of 19000 per cu- bic milliliter, but the rest of the complete blood count and compre- hensive metabolic panel were within normal limits. Skin biopsy of the right lateral thigh showed a perivascular lymphocytic infiltrate in the dermis, with positive staining for CD56, CD43 CD45 and BCL2, seen in Figure 4. He was diagnosed with leukemia cutis. A bone marrow biopsy revealed increased blasts with scant baso- philic cytoplasm and enlarged nuclei. 30% population of immature myeloid cells was detected with co- expression of CD4, CD11b, CD13, CD14, CD15, CD33, CD38, CD45 (bright), CD56, CD64 (bright), CD123 (weak), and HLA-DR. Patient was diagnosed with acute myeloid leukemia with monocytogenic differentiation (M5). He was initiated on Vidaza and venetoclax. Unfortunately, the patient passed away 2 weeks later due to rapid progression of the disease.



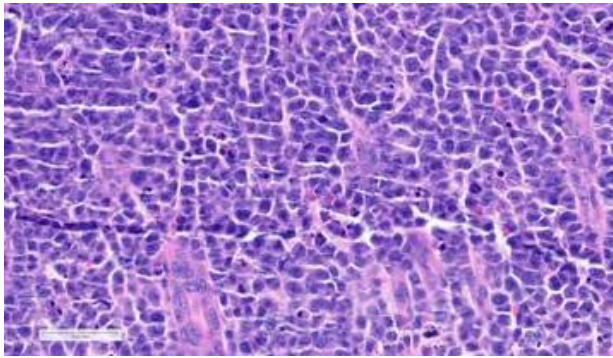
**Figure 1:** Non-tender and non-pruritic widespread nodular erythematous rash of the lower extremities.



**Figure 2:** Non-tender and non-pruritic widespread nodular erythematous rash of the torso.



**Figure 3:** Non-tender and non-pruritic widespread nodular erythematous rash of the face.



**Figure 4:** Skin biopsy of the right lateral thigh nodular rash revealing a perivascular lymphocytic infiltrate in the dermis, with positive staining for CD56, CD43 CD45 and BCL2, consistent with leukemia cutis.