

The Death Patches

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Eighty one year-old woman with history of Acute Myeloid Leukemia (AML) in remission presented to her primary care physician with fatigue, weight loss, pallor, fever, raised erythematous papules, and plaques mainly over the trunk and extremities (Figures 1 and 2). The skin biopsy along with the bone marrow biopsy revealed a relapse of AML with monocytic differentiation and infiltration of the skin (Figures 3 and 4). The patient had a similar presentation five years ago with total resolution after induction chemotherapy (Cytarabine and Anticyclines) without consolidation. Upon relapse, the patient received chemotherapy (Gemtuzumab and Azogamicin). She subsequently developed neutropenic sepsis and pulmonary aspergillosis which was fatal.

Leukemic involvement of the skin is uncommon, but when present is most often found in patients with monocytic or myelomonocytic AML variants. This can be the presenting manifestation of AML or its relapse. The recurrence of leukemia cutis in AML patients indicates a poor prognosis even with adequate therapy. Other rare skin findings associated with AML are Sweet Syndrome, mastocytosis, pyoderma gangrenosum, sarcoid skin lesions, erythema nodosum and erythema elevatum diutinum. These different entities may present similar in appearance and a skin biopsy is warranted almost always to confirm the diagnosis.



Figure 1. Erythematous to violaceous papules and plaques on the bilateral lower extremities.



Figure 2. Erythematous to violaceous patches, papules, and plaques on the abdomen.

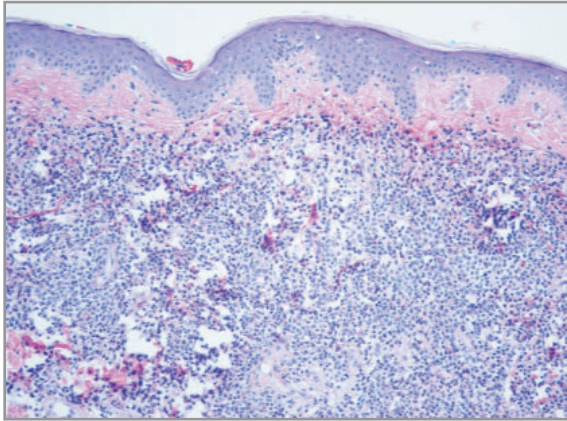


Figure 3. The low power (HEx10) photomicrograph shows a dense infiltrate of leukemic cells in the dermis separated from epidermis by thin non-involved layer of papillary dermis.

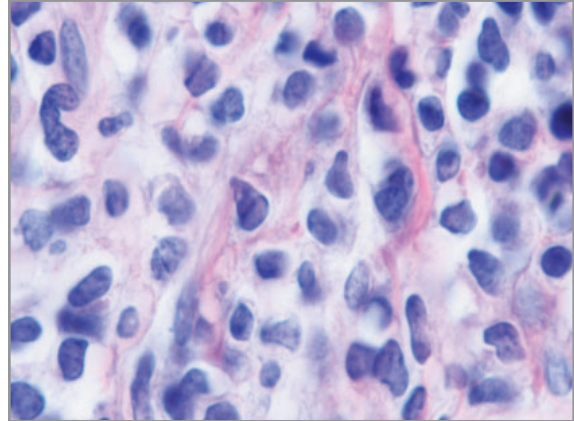


Figure 4. High power (HEx40) shows that these cells are slightly larger than lymphocytes and have modest cytoplasm with nuclei which are irregular with nuclear creases and some folding. Nucleoli are inconspicuous. At 12.00 o'clock a mitotic figure is seen.

Immunohistochemical analysis performed on the cells shows that they are CD3 and CD20 negative. The cells are positive for CD43, CD45, CD68 and CD117. The corresponding bone marrow performed the preceding day showed acute myeloid leukemia with monocytic differentiation with the same immunohistochemical staining characteristics as the skin biopsy.

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