Cutaneous Presentation of FLT-3 Negative Secondary Acute Myeloblastic Leukemia

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We would like to draw attention to the case of a female patient with FLT-3 negative secondary acute myeloblastic leukemia (AML) with maturation (cytogenetic report: 46,XX;t(8;21), without additional cytogenetic aberrations). The patient had a 2-year history of myelodysplastic syndrome with multilineage dysplasia (MDS-MLD) treated with azacytidine (75 µg/m² sc, d1-5, qd29 with good therapeutic response), and was presented with generalized leukemia cutis (LC) before development of AML with overall disease progression.

The frequency of cutaneous infiltration by neoplastic myeloblasts in leukemia patients has overall incidence between 2 and 20% [1]. The isolated LC diagnosed before any blood or bone marrow evidence of progression of leukemia is very rare. Typically, skin lesions may be localized or generalized and morphologically present as

multiple palpable purple nodules, occasionally with central ulceration (Fig. 1a). Histologically, the myeloblasts are found in the epidermis, dermis or subcutaneous fat tissue with perivascular or periadnexal infiltration (Fig. 1b, c). The molecular basis responsible for LC suggests a strong association between aneuploidy of chromosome 8, translocation of chromosomes 3, 6, 8, 21 and inversion of chromosome 16 [2]. The skin biopsy with follow-up bone marrow biopsy are essential diagnostic procedures to confirm the diagnosis. Immunophenotyping and immunohistochemistry are useful diagnostic tools in cases in which is difficult to distinguish between the subtypes of leukemia based only on histologic morphology. Finally, the early diagnosis and treatment of LC are crucial factors for improved prognosis and treatment.

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Fig. 1 Secondary FLT-3 negativ AML with skin infiltration. Close-up photo with diffuse, confluent eruption of infiltrated papules and plaques (a). Histological findings demonstrate epidermal and dermal myeloblasts infiltrates between collagen bundles and along the fibrous tissue with periadnexal involvement (hematoxylin–eosin staining, magnification $\times 400$ b). The neoplastic myeloblasts were positive for myeloperoxidase (magnification $\times 400$, c)

Compliance with Ethical Standards

Conflict of interest The author declares that they have no conflict of interest.

Ethical Approval All procedures were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Consent for the publication of this case report and any additional related information was taken from the patient involved in the study.

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