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CLINICAL IMAGE

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Sorafenib for relapsed *FLT3*-ITD-positive acute myeloid leukemia postallogeneic stem cell transplantation presenting as leukemia cutis

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Abstract

Relapse of *FLT3*-mutated acute myeloid leukemia (AML) following allogeneic stem cell transplantation is associated with poor survival. The clinical utility of sorafenib monotherapy in this setting is described in a patient presenting as leukemia cutis.

KEYWORDS

acute myeloid leukemia, allogeneic stem cell transplantation, *FLT3* mutation, leukemia cutis, relapse, sorafenib

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Internal tandem duplication mutations of the *FLT3* gene (*FLT3*-ITD) are commonly acquired mutations in acute myeloid leukemia (AML) and are associated with a high risk of relapse. The FLT3 inhibitor sorafenib has been evaluated in *FLT3*-mutated AML postallogeneic stem cell transplantation (alloSCT).[1]

A 60-year-old man diagnosed with *FLT3*-ITD-positive AML in second remission underwent a sibling donor alloSCT. On Day +59, an extensive papular rash developed on his lower back, thought most likely to represent acute Graft-Versus-Host disease. However, skin biopsy demonstrated an infiltrate of myeloblasts consistent with leukemia cutis (Figure 1A and 1B) that was *FLT3*-ITD mutation positive. On Day +71, he started sorafenib monotherapy (400 mg BD) resulting in a substantial clinical improvement after two weeks (Figure 2A and 2B). A donor lymphocyte infusion was administered on Day + 122 for bone marrow relapse resulting in a remission of several months until he relapsed and died on Day + 505.

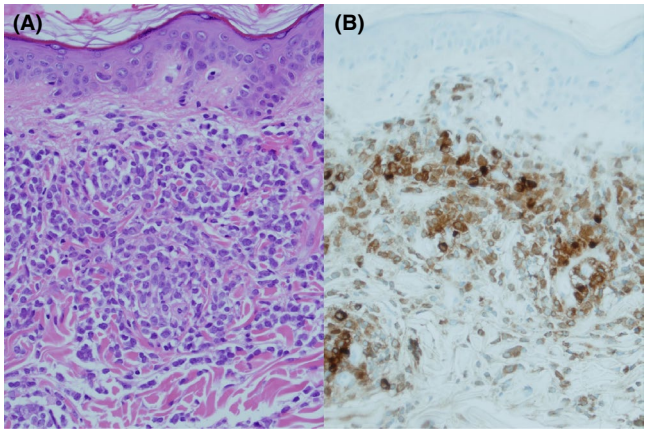

FIGURE 1 A, Skin biopsy showing dermal infiltration of myeloblasts (hematoxylin and eosin, ×200). B, Myeloblasts staining positive for myeloperoxidase (×200)

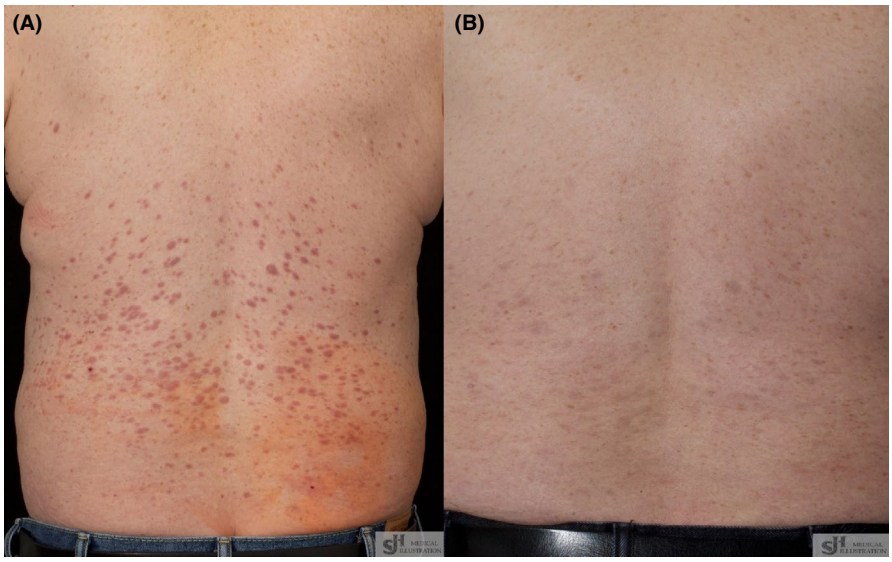

FIGURE 2 A, Presentation of leukemia cutis. B, Response after two weeks of sorafenib therapy

Sorafenib for relapsed *FLT3*-ITD-positive AML presenting as leukemia cutis has rarely been described.[2] This case highlights the need to consider leukemia cutis in the differential diagnosis of a rash early post-alloSCT and the rapidity of the response that can be achieved with sorafenib.

CONFLICT OF INTEREST

All authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

RB and SEL: collated the data. JQ and PJH: contributed to patient care and clinical information. MEM: contributed to histopathological review. All authors contributed to manuscript preparation and approved the final version.

CONSENT

Written informed consent was obtained from the patient.

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