



CORRESPONDENCE

Occurrence of eruptive granuloma annulare before leukemic transformation in a patient with myelodysplastic syndrome



Dear Editor,

A 71-year-old man who was a carrier of the hepatitis C virus developed megalocytic anemia. Repeated bone marrow biopsy samples indicated myelodysplastic syndrome (MDS) and the patient subsequently developed myelofibrosis within 6 months. As a result, the patient received regular blood transfusions approximately every 2 weeks. However, thrombocytopenia occurred 1 year later and the peripheral blood examination revealed intermittent blast formation.

The patient was then admitted to our hospital with bacterial sinusitis and a low leukocyte count (1400/ μ L). Multiple asymptomatic small scattered erythematous or skin-colored papules were found over both hands and the palms, forearms, and lower legs of the patient on admission (Figure 1). A dermatologist was consulted and a skin biopsy sample was taken. Pathological analysis showed several stellate-shaped palisaded granulomas with central necrobiosis in the reticular dermis, accompanied by moderate perivascular and interstitial infiltration of lymphocytes, histiocytes, and some neutrophils in the adjacent dermis (Figure 2). No significant nuclear atypia in the inflammatory cells was noted. There was no caseous-type necrosis, and periodic acid–Schiff staining was negative for fungi. The cluster of differentiation–68 immunohistochemical staining showed an increase in the number of histiocytes and their palisade arrangement and interstitial granulomatous infiltration, consistent with granuloma annulare (GA). Desoximetasone 0.25% cream was prescribed twice daily to control his skin rash after discharge. Unfortunately, the patient returned 2 weeks later with a very high blast count (47%), as indicated by a peripheral blood test. He was diagnosed with acute myeloid leukemia (AML) transformation, and chemotherapy with a low dose of cytarabine was started. The patient did not respond well to treatment and his condition rapidly worsened. Supportive palliative care was given after thorough discussion with him and his family. He died 3 months after the diagnosis of AML.

Associations between GA and several types of systemic disease have been reported previously, including diabetes mellitus, thyroid disease, dyslipidemia, and immunocompromised status.¹ Similarly, the occurrence of eruptive GA and subsequent or concurrent malignancies such as lymphoma, leukemia, and solid cancers have also been documented.² Our patient developed an acute onset of generalized eruptive GA weeks before acute leukemic transformation of

his MDS. This observation raises the clinical question of whether the occurrence of eruptive GA may be an indicator of acute leukemic change in patients with MDS.

Some recent studies have shown that cutaneous eruptions in patients with MDS may herald a transition to AML and are associated with a poorer prognosis. The specific cutaneous manifestation of MDS is the dermal infiltration of malignant hematopoietic cells, which is rare, but highly indicative of acute leukemic transformation.³ An association between GA and hematogenous malignancy has been previously described in a child with MDS; in this patient the skin lesions initially cleared spontaneously, but recurred when the acute leukemic transformation exacerbated.⁴ Another case report described a patient with MDS who developed disseminated cutaneous granulomatous eruptions before progression to AML. The skin lesions subsided after his AML was controlled by chemotherapy.⁵ Our patient had similar clinical manifestations, with eruptive GA appearing just weeks before AML transformation. However, more observations are needed to clarify the pathogenesis of this phenomenon and to determine whether GA and AML are simply coincidental events or whether the acute onset of generalized eruptive GA can be regarded as a paraneoplastic phenomenon.

While researching the possible causes of GA in our patient, we came across three case reports mentioning GA in carriers of the hepatitis C virus. However, two of these were associated with the use of pegylated interferon-alpha.^{6,7} Our patient did not receive treatment with interferon and liver function tests indicated no impairment during admission. Thus we believe that it is less likely that the occurrence of GA eruptions was related to the hepatitis C virus infection rather than the AML.

Currently, the gold standard treatment for GA is debatable. However, when strong associations exist between GA and an underlying systemic disease, patients may benefit from therapeutic strategies aimed at the underlying disease, such as aggressive chemotherapy and allogeneic bone marrow transplantation.³ However, the evidence from previously published work could not be directly applied to our patient.

In conclusion, we observed that MDS progressed rapidly into acute leukemia after the development of eruptive GA. Although the phenomenon may represent a coincidental occurrence, these patients should be followed up carefully for the possibility of the presence of an associated systemic disease.

Conflicts of interest: The authors have no conflicts of interest relevant to this article.

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Figure 1 Clinical features. Multiple scattered erythematous or skin-colored papules are seen over the bilateral forearms, dorsal hands, and palms.

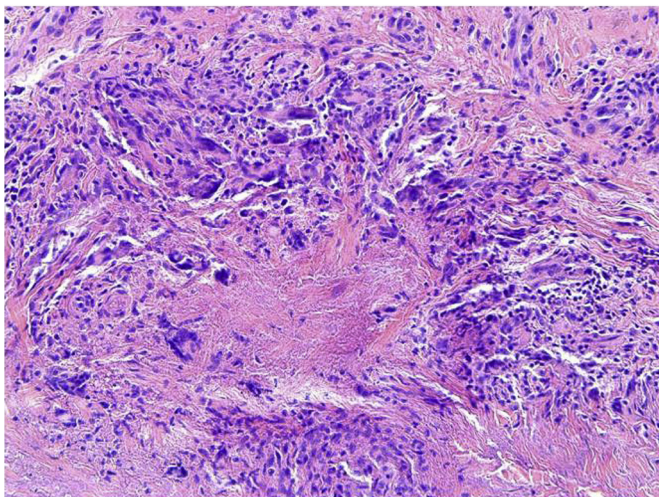
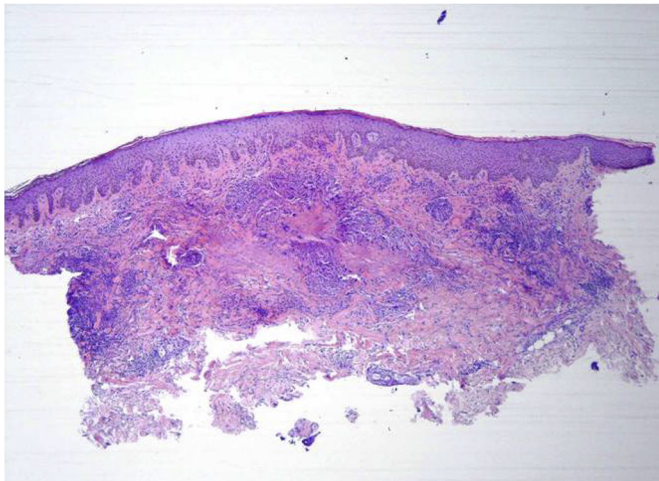


Figure 2 Histopathological findings of palisaded granulomas with central necrobiosis in the reticular dermis.

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