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LETTER TO THE EDITOR
Spontaneous Remission of Congenital Acute Myeloid Leukemia With t(8;16)(p11;13)

To The Editor: We report a case of congenital acute myeloid leukemia (AML) with t(8;16) that went into spontaneous remission. A full-term female presented with blueberry muffin spots at birth. A skin biopsy revealed a diffuse dermal infiltration by immature hematopoietic cells and was diagnosed as myelosarcoma (Fig. 1A and B). At Day 10, the patient's bone marrow showed 32.8% leukemic blasts (Fig. 1C and D). A subset of the leukemic blasts was weakly positive for myeloperoxidase (MPO) and others showed weak reactivity for nonspecific esterase (NSE) (Fig. 1E and F), consistent with AML, M4 subtype by FAB criteria.

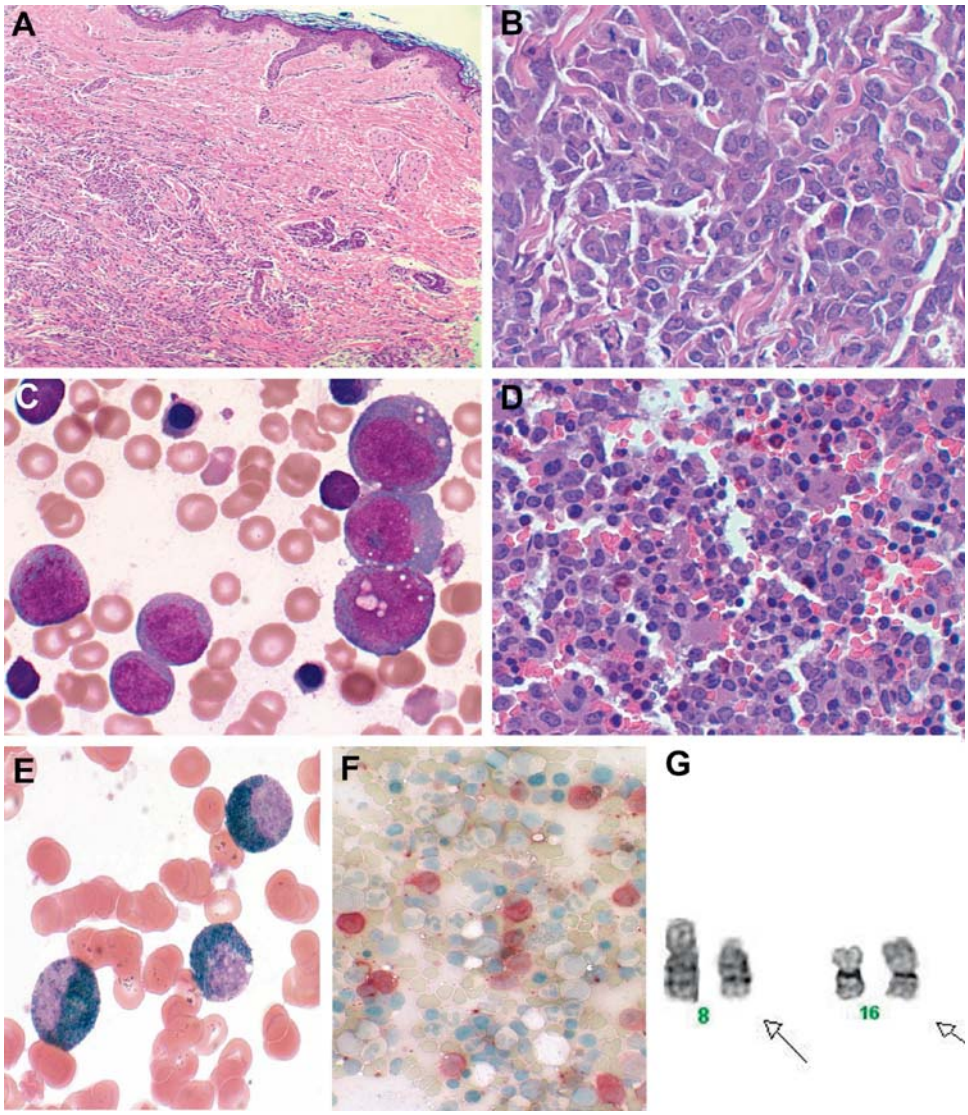

Fig. 1. Skin biopsy showed diffuse dermal infiltration by immature hematopoietic cells at low power (**A**, H&E 100X). The pleomorphic neoplastic cells had larger irregular nuclei with prominent nucleoli and abundant basophilic cytoplasm (**B**, H&E 400X). Bone marrow was packed with these neoplastic cells (**D**, bone marrow biopsy, H&E 400X). Wright stain showed large nuclei with prominent nucleoli, abundant cytoplasm, occasional cytoplasmic vacuoles and fine esinophilic granules (**C**, bone marrow aspirate, Wright stain, 1000X), and dual postivities of MPO (**E**, cytochemic stain 1000X), and NSE (**F**, cytochemic stain, 400X). Cytogenetics study showed t(8;16)(p11.2;p13.3) (**G**, arrow).

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Cytogenetic analysis showed 46, XX, t(8;16)(p11.2;p13.3)[20] (Fig. 1G). The patient was managed conservatively with close monitoring of peripheral blood counts and serial studies of bone marrow, lumbar puncture, and cytogenetics. The skin lesion regressed in 4 weeks. Four months after initial diagnosis, spontaneous remission was observed. The patient has remained in complete remission for 11 months since initial diagnosis with normal cytogenetics.

Although leukemia is the most common malignancy in childhood, congenital AML with t(8;16)(p11.2;p13.3) is rare. Nine cases including this case have been reported. These cases appear to have distinct clinic manifestations. All patients presented with skin rash. All but one leukemic patient was classified to have AML M4/M5, with one diagnosed as malignant histiocytosis [1]. All five cases reported after 1996 went into spontaneous remission [2–5], while four cases reported before 1996 were treated with chemotherapy. One possibility is that these treated cases might not have been given enough time for spontaneous remission. If that is the case, congenital AML with t(8;16) may be a self-limited disease. The time to spontaneous remission ranged from 2 to 4 months following initial diagnosis. All but one remain in complete remission with or without chemotherapy during the time of follow up, which varied from 2 weeks to 5 years. One reported death [6] was due to pseudomonas infection after chemotherapy.

The t(8;16)(p11.2;p13.3) is characterized by fusion of MYST histone acetyltransferase (monocytic leukemia) 3 (MYST3) on chromosome 8p11 and CREB-binding protein (CREBBP) gene on 16p13. Breakpoints at different locations of MYST3 and CREBBP generate seven fusion transcripts [2,7,8]. Type I (MYST3 exon 16-CREBBP exon 3) is the most common form in adults with t(8;16) AML and is associated with poor prognosis. Only two congenital cases have been characterized by RT-PCR [2,3]. Wong et al. [2] reported only reciprocal Type I (CREBBP exon 2-MYST3 exon 17); while Terui et al. [3] reported Type VI (MYST3 exon 16-CREBBP exon 7) and VII (MYST3 exon 16-CREBBP exon 8) that have never been detected in adult patients.

In conclusion, although an identical translocation is observed in both adult and congenital forms of t(8;16) positive leukemia, the congenital form shows distinct clinicopathologic and prognostic characteristics. Due to the possibility of spontaneous remission, patients should be closely monitored with morphologic and cytogenetic evaluation.

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